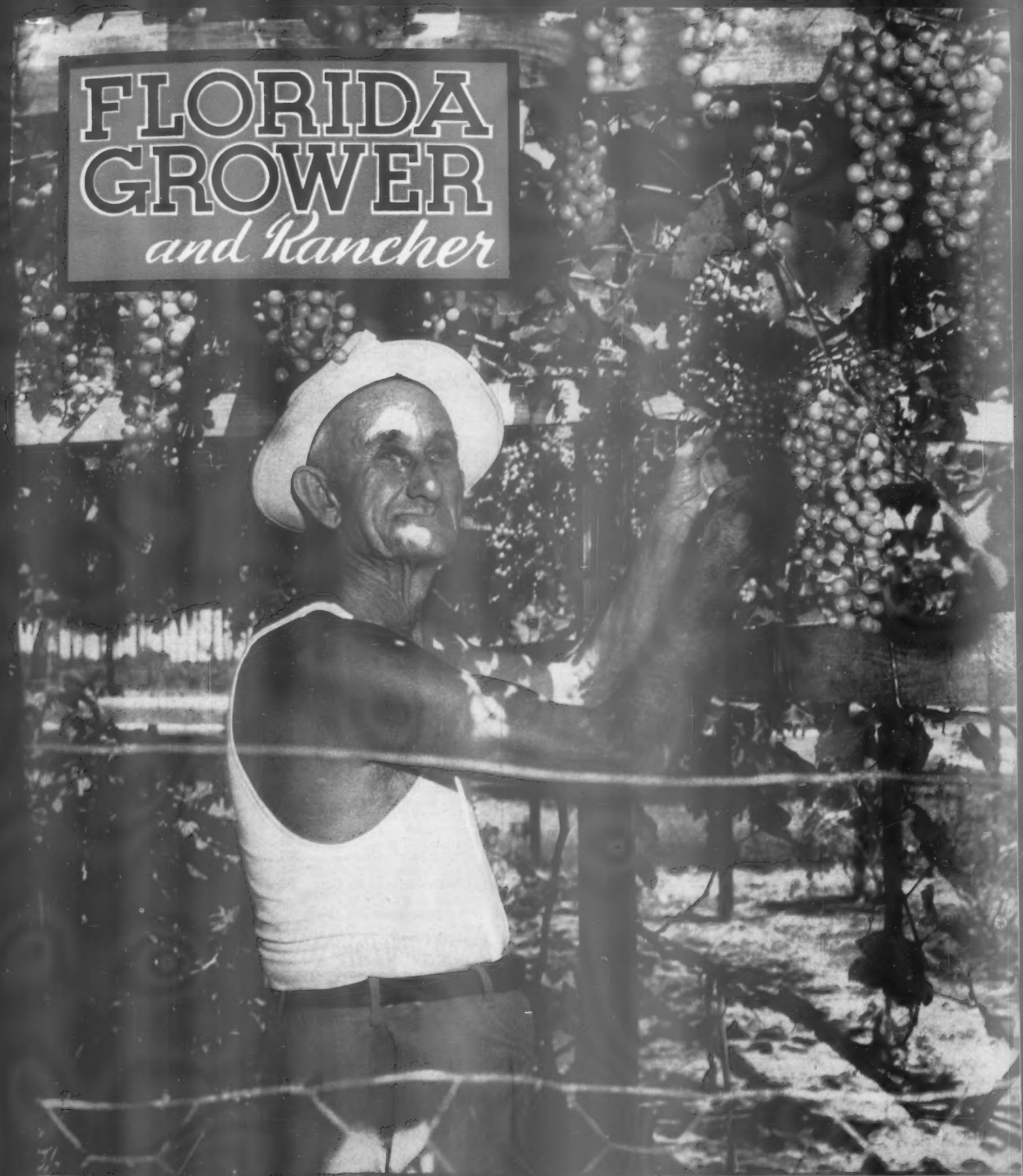
FLORIDA GROWER and Rancher



Weed Control in Florida Agriculture

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September 1959

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The Cover . . .

Luscious Lake Emerald grapes and grower W. H. Swango of Ocala share the spotlight in this month's cover picture.

Swango, who has three vines on one arbor, last year harvested approximately 180 bunches of this delicious fruit. This year's crop is estimated at better than 1,000 bunches.

"It's no problem to produce grapes in the Ocala area," declares the Marion County resident. Other than hoeing to keep down weeds, he does no cultivating. He applies the standard 4-7-5 fertilizer twice a year, in March and mid-June, at the rate of one pound per vine.

Grapes must have water, reports the producer. He relies heavily on compost to help preserve moisture.

Leaf roller is the only pest which has bothered Swango's grapes. To keep them away, he sprays well with zineb and black leaf 40 every 10 days.

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How smart are YOU?

1. What month in the year has the longest name?
2. Distinguish between a *stogy* and a *stogie*.
3. What islands are famous for their small ponies?
4. How many beats are there to a measure in waltz time?
5. Why are children who are born deaf often mute?
6. From what is citronella oil derived?
7. What is the simplest form of *microscope*?
8. Hibernia is an ancient name for what country?
9. What is the "welt" of a stocking?
10. If you lived in England, would you prefer a pram to a tram?

(Answers on Page 19)

FLORIDA GROWER and RANCHER

TAMPA, FLORIDA—SEPTEMBER, 1959

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Coming Events

Sept. 10: Swine Breeders' Field Day, University of Florida, Gainesville.
Sept. 10: Florida Jersey Sale, Orlando.
Sept. 10-11: Florida Entomological Society meeting, Miami.
Sept. 13-15: Florida Council of Farmers Cooperatives annual meeting, Miami.
Sept. 17: Leon Feeder Sale, Monticello.
Sept. 18: Angus Feeder Calf Sale, Gainesville.
Sept. 22-27: Calhoun County Fair & Livestock Exposition, Blountstown.
Sept. 23-25: FFVA convention, Miami Beach.
Sept. 25: Hereford Feeder Sale, Gainesville.
Sept. 29-Oct. 4: Harvest Fair, Crestview.
Oct. 7-8: Suwannee River Youth Fair, Fannin Springs.
Oct. 12-13: Junior Livestock & Poultry Show, Ocala.
Oct. 14: Pasco County Cattlemen's Association Field Day, Dade City.

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FFVA Convention Theme:

'Agriculture at the Crossroads'

FACTS AND FESTIVITIES will share the spotlight when the Florida Fruit and Vegetable Association holds its 16th annual convention September 23-25.

"Agriculture at the Crossroads" will be the program theme. The three-day round of conferences and social events will be held at the Fontainebleau Hotel, Miami Beach.

W. Thomas Rice, Atlantic Coast Line Railroad president, will make the keynote address. He will outline decisions that must be made for the future of agriculture.

W. Thomas Rice

Pre-convention registrations point to a record attendance, according to general chairman J. O. Harllee Jr. of Palmetto. More than 1,500 vegetable and tropical fruit growers and guests attended the 1958 convention.

Convention registration, in the hotel lobby, will begin at 8 A.M. on Wednesday, September 23. The president's buffet luncheon will precede the first business session; an evening hospitality hour will follow.

The opening day business session will begin at 2 P.M. FFVA president Roy Vandegrift Jr., Pahokee, will preside.

E. H. Finlayson of Gainesville, Florida Farm Bureau president, will deliver the invocation. FFVA members will be welcomed by Dade County Commission chairman Walter Weiss, Miami.

Willard M. Fifield, University of Florida Provost for Agriculture, will present the FFVA's annual research awards on Wednesday afternoon. This recognition is for significant, practical contributions to Florida agriculture.

Keynote speaker Rice will address the FFVA'ers during their first business session. He will be introduced by Maxwell Wells, Orlando attorney.

Special ladies' activities will be provided for wives who do not wish to attend the business sessions, according to Mrs. John Evans of Oviedo, chairman.

Beginning the Thursday activities will be the Florida Citrus Breakfast. It will be hosted by Florida Citrus Mutual and Florida Citrus Commission on behalf of the entire state's citrus industry.

The annual membership meeting will be held at 10:30 A.M. Thursday. This will be followed by a meeting of the newly-elected board of directors.

"Interdependence of Business and Agriculture" will be stressed during the afternoon program. Introductory remarks will be delivered by J. J. Parrish of Titusville, Florida State Chamber of Commerce president.

Presiding over the symposium will be William H. Dial of Orlando. He is vice president of the First National Bank at Orlando and former attorney for the FFVA.

"Manpower Problems in the Expansion of the Nation's Agriculture" will be described by Matt Triggs, Washington, D. C.; assistant legislative director, National Farm Bureau Federation.

Florida Agricultural Council activities will be reported by council president W. R. (Buster) Hancock, Groveland.

The annual FFVA banquet, traditionally a convention highlight, will be held Thursday evening. U. S. Congressman Billy Matthews, Gainesville, will serve as toastmaster.

Dr. Russell Williams, the eminent scientist, will be the principal banquet speaker. He will discuss "What the International Geophysical Year Means to You."

Congressman A. S. (Syd) Herlong Jr., Leesburg, will present the FFVA's Distinguished Service Award. The association's highest honor, it is annually bestowed upon the individual making the greatest contribution to Florida farming.

Only one business session will be held on Friday, September 25. Program topics and speakers will include:

"Farm Credit"—Robert A. Darr, Columbia, South Carolina; president, Intermediate Credit Bank.

"Productivity Challenge from Abroad"—O. R. Strackbein, Washington, D. C.; chairman, Nationwide Committee on Import-Export Policy.

"What the Department of Agriculture is Doing in the Field of Commodity Promotion"—Miss Trienah Meyers, Washington, D. C.; head, Market Surveys Section, Market Development Branch, USDA.

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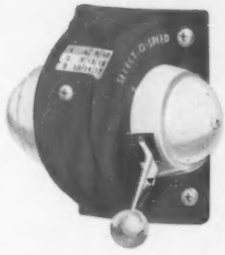

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Weed Out Your Woodlot

By FRED F. SNELL, *Chairman*
Florida Forest Industries Committee

Do YOU HAVE weeds in your woodlot? Weed trees, that is.

If so, your good trees must compete with them for the moisture and plant food available. Thus you're getting only part of the possible value from your woodlot.

These weed trees can also keep young stands of good timber from getting started by shading them out. That is particularly true of pine, which must have sunlight to live and grow.

Generally speaking, the undesirable trees will be hardwoods. But don't make the mistake of thinking that all hardwoods are undesirable.

On good sites with good growth stock, many species of hardwoods will grow just as fast as pine. And there's always a ready market at sawmills and veneer mills for good, well-formed logs for lumber and plywood.

"Weed" trees are the limby, rough trees that are too short or knotty for logs. Or they are the blackjack or scrub oak that never get big enough for anything but firewood and charcoal.

Before all your land can be put to work growing pine or other valuable trees, these undesirable ones must be removed. This can be done by methods within the financial reach of every woodland owner—with an axe and chemicals which can be bought at most hardware and seed stores.

It is best to cut down trees under five inches in diameter, leaving a "V"-notch in the stump. Larger trees should be "girdled" or "frilled" or "cupped."

Girdling simply means cutting a band all the way around the tree, well into the sapwood. Frilling is similar except that it is done with single downward strokes of the axe, leaving a row of frills around the tree.

Cupping is done by cutting out big chips to leave shallow cups. If this method is used, there should be about one cup to every six inches around.

Most commonly used of the chemicals are ammonium sulfamate crystals and 2, 4, 5-T.

Ammonium sulfamate can be used dry or mixed with water. To use dry, put one heaping tablespoonful on each notched stump or in each cup of the tree.

For liquid solutions, mix two pounds of ammonium sulfamate crystals to one gallon water; one gallon of 2, 4, 5-T to 50 gallons of water; or one gallon of 2, 4, 5-T to 20 gallons of diesel fuel or burnt motor oil. Use a red stain in these mixtures so you can readily see which trees and stumps have been treated.

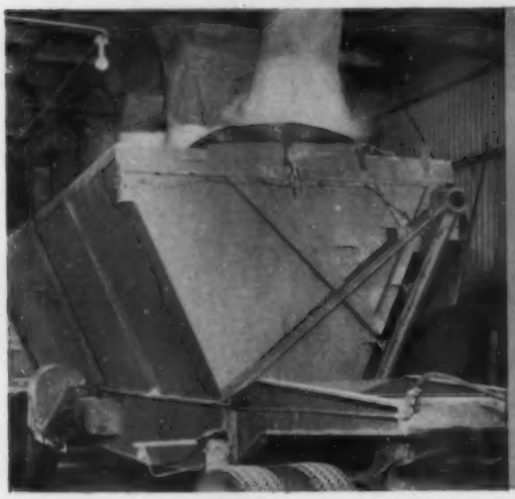
Use an oil can or spray can with the liquid, so it can be poured directly on to the cup. On girdles and stumps, pour it liberally on the exposed portions. If frilling or cupping is used, fill these up with the solution.

The trees absorb the chemicals and die.

Larger trees deteriorate gradually. (The falling pieces usually are not large enough to seriously damage the young trees coming up under them.) By leaving them standing, you do not have large areas taken up with felled trees and brush.

By using 2, 4, 5-T in oil, trees can also be killed by spraying them heavily from the ground up to about two feet above the ground. This, however, is the most expensive method.

When weeding out these cull trees, keep in mind the fact that you might want to go hunting later. So leave an occasional tree for game food and shelter.



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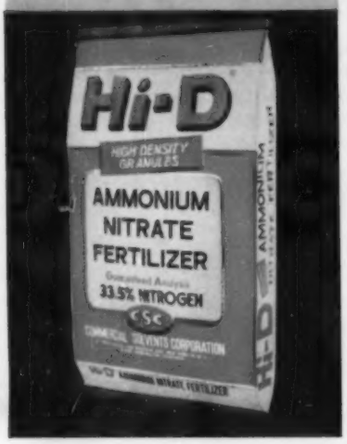

Hi-D—there is no other ammonium nitrate like it! That's why practically every fertilizer manufacturer in Florida uses it.

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Mixed goods containing Hi-D furnish the two types of nitrogen crops do best on—*nitrate* nitrogen for strong early growth and *ammonia* nitrogen for sustained follow-up feeding. Nitrogen—the heart of the harvest. In mixed goods—there is no other ammonium nitrate like Hi-D!

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Rules for Rural Pedestrian Traffic

FOR THE FIRST TIME in history, the action of a pedestrian around traffic in rural Florida is now governed by law.

Rules for the walker to observe on the highways were set down by the 1959 legislature. And to make sure the rules are followed, certain penalties were established.

The legislature's action came as a result of the increasing number of pedestrians who are annually killed or injured in the state, many of them on rural highways.

Last year, the toll was 243 out of 1,140 highway fatalities—almost 25% of the state's traffic death toll. Pedestrian deaths occurring on rural highways number 129.

Moreover, according to the Florida Highway Patrol, the injured climbed to 2,638 out of a total 33,587.

Basically, the new law provides that all pedestrians shall:

Walk on sidewalks where they are provided in rural sectors, or

Walk on the left side of the highway, on the shoulder facing oncoming traffic, where there are no sidewalks.

Stand off the paved portion of a highway when "thumbing" a ride, or when soliciting employment or business.

Penalties in each case would be left up to the discretion of the court. However fines would be comparable with those meted out in other traffic convictions.

* * *

An agriculturalist is a person who used to be called a farmer . . . before he could afford a station wagon.

* * *

Dieting is the penalty for exceeding the feed limit.

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Controls Roundworms in Pigs

WHEN FED TO growing-finishing pigs from weaning to market weight, the antibiotic called hygromycin gave good control of large intestinal roundworms.

So report South Dakota State College scientists following recent trials there. However, the researchers recommend:

Feed this antibiotic only until the pigs weigh about 100 pounds. From 100 pounds to market weight, they explained, hygromycin appeared to reduce the amount of feed the pigs ate and they gained slower.

Up to 100 pounds, the antibiotic gave good—although, in some cases, not complete—protection against roundworms.

Best over-all results, the experiments also indicate, can be expected from feeding hygromycin plus another antibiotic up to 100 pounds:

Results showed that a combination of hygromycin and aureomycin fed from weaning time to 100 pounds increased gains 22% over pigs that received no treatment. When fed as the only antibiotic for the same period, hygromycin increased gains 12%; aureomycin, 6%.

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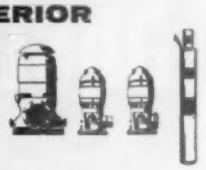

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THIS IS THE WAY plants are grown in the tobacco area of North Florida. These plants are growing in a bed that was treated with methyl bromide.

The Use of Methyl Bromide in Tobacco Plantbeds

By S. L. BROTHERS
Assistant Agronomist
Agricultural Extension Service

A FARMER'S SUCCESS in getting a good stand of tobacco often determines how much money per acre he will make. Therefore the importance of an ample supply of healthy plants of the right size at transplanting time cannot be over-emphasized.

When small, spindly, or unhealthy tobacco plants are used to set a crop, a poor stand often results. Replanting becomes necessary. Production costs increase. The crop is harder to handle from start to finish. Costs go up . . . profits go down.

Hence, plant production is one of the most important phases of tobacco culture.

Tobacco seedbeds should be located on soil that has fair to good drainage, or else ditches should be provided to give drainage. If possible, locate the bed convenient to some source of good water.

On most farms, beds should be located near pumps or wells. This ordinarily brings the bed site near the home site and near garden sites which may be infested with nematodes and a plentiful supply of weed seeds.

For many years, weed and disease outbreaks in tobacco beds were controlled by brush and log fires, the use of new ground, and/or hand weeding. However, many growers do not have the necessary wood or new ground; and hand weeding is very expensive.

Consequently, many growers are using chemical control measures for controlling weeds and nematodes.

Preparation and treatment should be considered as soon as the bed site has been selected. Begin preparation two or three weeks ahead of the date for application of the weed control material:

Remove bushes, weeds, and trash. Plow, disk, and hand rake the soil until the surface is smooth enough for seeding the bed.

Disk down the weeds around the bed area. (This reduces the possibility of wind-blown seeds entering the bed after weed control chemicals have been applied.)

Methyl bromide has proved the most effective material to date for the control of weeds and nematodes. To use this material, you will need an air-tight cover of plastic or similar material.

Upon obtaining this cover, proceed as follows:

Provide some convenient and simple supports to hold the air-tight cover several inches above the ground. Place these supports in two parallel rows and equi-distant in a marked-off area that is slightly smaller than the cover.

(Fifteen to 20 burlap bags, partly filled with hay or straw, are good supports. Large bottles or cans — or other materials having a smooth surface with no sharp edges or points — can be substituted.)

Sub-divide the bed into three plots of equal size. Place a gas receptacle (such as an open quart Mason jar or a No. 2 tin can) in an upright or slightly slanting position at the center of each plot.

Next, place the outer end of the tubing of an applicator in each receptacle. Extend the tubing two or more feet beyond the outside of the bed.

Stretch the gas-proof cover over the entire bed and to the ground outside the bed on all sides. Bank edges of the cover with soil to prevent escape of the gas to be released.

Release three pounds of methyl bromide gas into each receptacle by use of the special applicator. Leave the cover in place 24 to 36 hours before removing.

Warning: Methyl bromide is highly poisonous. The gas should be released, and the cover removed from the windward side of the bed, so that any escaping fumes will be carried away from the operator.

It is not necessary to use methyl bromide well in advance of seeding. It is safe to sow methyl bromide-treated beds the day after removing the covers.

Fertilizer may be applied before treating, if the bed is to be sown within a week.

Methyl bromide has no nitrogen fertilizer value. Therefore the operator should use 1½ to 2 pounds of a 6-9-3 plantbed fertilizer for each square yard of bed and side dress with a nitrate form of nitrogen during the plant growing season, as occasion demands.

Normally, methyl bromide is sold as a liquid under pressure in one-pound cans. As the liquid under pressure is released from the can, it vaporizes or forms a gas which will penetrate loose, pulverized soil.

Best results can be expected if the soil temperature is about 50 to 60 degrees at the time of treatment.

The gas penetrates the soil best if it is not wet; however weed kill is best if there is sufficient moisture to soften the seed coat. The soil moisture should be about the same as for seed sowing.

Plants that are grown in plantbeds treated with methyl bromide can usually be counted on to be free of nematodes, and to have a much better chance in the field than infested plants.

AIR-TIGHT COVER should be put in place just before methyl bromide is released. The cover should be left in place 24 to 36 hours.

EFFECTIVENESS of methyl bromide as a method of controlling weeds is graphically illustrated in this photo. The untreated bed is on the right.

A SERIES OF GIBBERELLIC acid treatments of the right timing and strength induced three favorable changes—heightened stems moderately, lengthened stalks, and speeded flowering—in the experimental plant at right. The control plant (left) shows typical growth and stands about 12 inches high. USDA Photo.

Soil Treatments Reduce Plant Disease

By H. N. MILLER
Plant Pathologist
Agricultural Experiment Station
Gainesville

PLANT DISEASES are a major problem to producers of any crop. But growers of foliage plants have an even more serious problem.

Conditions ideal for the foliage plants may also be ideal for the growth of disease-producing organisms.

Such diseases as damping off, seed decay, stem rots, and root rots are commonly caused by *Rhizoctonia* spp.; the water molds, *Pythium* and *Phytophthora* spp., and other soil-borne organisms.

These organisms are spread largely through splashing water, or by the scattering of soil or plant fragments in which they are present.

Rhizcotonia causes plant stems to decay near the soil surface, rather than at the root tips as with the water molds. In these infections, coarse brown threads of the fungus may (with the aid of a hand lens) be seen clinging to the decayed plant parts. Soil particles may hang to these threads.

Water mold infections usually start as a black, water-soaked rot of the root tip. And they may spread to rot all below-ground parts of the plant.

Other root-rotting fungi may live in or on the soil, causing specific diseases of certain plants. The Southern blight fungus grows over the surface of nursery soils and rots the plant stems with which it comes in contact.

A number of factors can make a plant more susceptible to outbreaks of soil-borne diseases. Some host plants are naturally less susceptible than others.

The amount of the organism in the soil determines the potential severity of the disease.

For example, soil salinity weakens plants and makes them less able to withstand attack by Rhizoctonia damping off. Plants making rapid, succulent growth often are more susceptible to soil disease organisms than healthy slow growers.

Cool, wet soils may increase damage from water molds. Growers, therefore, must maintain the soil as dry as possible without reducing the plant growth.

Recommended for control of diseases caused by soil-borne organisms are soil treatments with heat and/or chemicals. The best method of disinfection for all fungi, bacteria, nematodes and weed seed is steam treatment of the soil:

Heat the soil to 180°F. for 30 minutes. In many methods, the temperature will rise to 212 degrees.

Steam is more effective, dependable, and cheaper in the long run. Also, steam can be used near living plants without hazard.

There are several methods of soil treatment with steam. You can treat it in stationary or mobile boxes containing a perforated pipe grid arranged in rows of nine inches apart.

Or you can steam soil in benches or ground beds in place by laying a canvas hose or perforated pipe on top of the soil down the center of the bench and covering the soil area with a plastic cloth.

You may bury the steam pipe or tile in the soil. You may use an inverted pan over the soil for sterilization of benches and ground beds.

Chemicals are not usually successful in eliminating soil-borne organisms on large soil areas. Treat soils chemically when the soil is in good planting condition and soil temperatures are between 65 and 75°F.

Methyl bromide is very effective, especially for flat and bulk soil sterilization. It is simple to use and has the shortest treatment and aeration periods.

Use four pounds of methyl bromide per 100 square feet of soil surface for treatment against most soil pests.

Formaldehyde has been used the longest for soil fumigation. Apply commercial formalin (37 to 40% formaldehyde) in water solution at one pint in six and one-half gallons of water, one-half gallon per square foot of soil surface.

Two effective soil fumigants for soil in greenhouse benches or ground beds are vapam at one to two quarts per 100 square feet and Mylone 85W at three-fourths pound per 100 square feet.

Also, terraclor (PCNB) has been used effectively for controlling damping off caused by Rhizoctonia in Pothros and Philodendron beds. Apply at one to one and one-half pounds per 1,000 square feet.

Fungicidal drenches may be used to prevent—temporarily—the spread of a disease. Ferbam, thiram, and captan are usually applied at one tablespoon per gallon of water per 10 square feet.

Containers are best treated with the soil. They may be dipped in formaldehyde (one gallon formalin in 18 gallons of water), stacked wet, and covered with a plastic film for 24 hours.

Do *not* use containers for four to five days after treatment.

Treat benches and flats with copper naphthenate, 8% concentrate diluted (one gallon to three gallons of Stoddard solvent per 1,000 square feet) as a dip or paint. *Warning:* this treatment may injure seedling roots that come in contact with treated wood.

For soil treatments to be effective, plant disease-free stock in the treated soils. Also:

Obtain healthy stock from a specialist propagator; then maintain it by isolation and sanitation. Lastly, avoid recontamination.

Gibberellin Can Help Mums

IT'S AN OLD axiom that a blossom stalk is just long enough to reach from the bloom to the stem.

Such, however, is not the case with chrysanthemums. Growers find they need a little more length for this spray-type cut flower than is normally produced by the plants.

Commercial mum growers therefore have been using a complicated method of day-length control that stretches blossom stalks (peduncles). Unfortunately though, this method also makes the plant bloom later.

But this method soon may become obsolete. Researchers at the USDA Agricultural Research Center in Beltsville, Maryland, have made a great discovery.

Treating mums with the growth-stimulating chemical gibberellin at just the right time, they have found, lengthens blossom stalks within the normal growing period.

Following studies on different varieties, USDA researchers have evolved this general rule:

Spray the flower buds, growing tip, and leaves just below the tip as soon as the flower buds are visible. Apply the solution—50 parts per million of gibberellin—until it runs off the leaves.

Repeat the spray five days later.

USDA researchers also found that treating the flower buds with the gibberellin solution once a week—from the time the buds are visible until color shows—hastens flowering.

Flowering delay caused by unfavorable night temperatures can be counteracted by this treatment.

In greenhouses where other plants are grown, night temperatures may be above or below the optimum (60°F.) for flowering of mums. Black cloth covers used to shorten the day and induce flowering of mums may raise the temperature above optimum.

Where to Go for Help

By J. FRANCIS COOPER
Editor
Agricultural Extension Service

WITHOUT COST, Florida farm people – and those urbanites and suburbanites who have problems with soils, plants, or animals – can tap vast storehouses of information on practically any subject.

State and federal workers and their own organizations are ready to lend a hand, whether the problem is simple or one of the complex ones that arise frequently in connection with modern farming, home grounds establishment and maintenance, or homemaking.

Florida residents by the thousands are using these services already. They have learned that staff members of the various institutions, agencies, and organizations can give them information that may be of tremendous help.

But even those who use some of these services may not be aware of all of them. Others may know about none, or very few.

At the request of FLORIDA GROWER AND RANCHER, I have endeavored to assemble here information about most, if not all, of the available sources of help.

Help nearest to home, no matter where you live in the state, is usually most immediately available from county and home demonstration agents.

Every Florida county except Monroe has a white county agent. In addition, many of these counties have one or more assistant agents.

Fifty-two of the 67 counties have white home demonstration agents. A number of these also have assistant agents.

Negro families are served by negro county agents in 10 counties; by negro home demonstration agents in 12 counties.

These agents conduct adult and youth educational work. They also endeavor to develop long-time programs for the improvement of agriculture and homemaking, and the families engaged in these activities.

Moreover, the agents conduct institutes, tours, and schools. These activities give a large number of people the opportunity to gain the latest information in the field at one time.

County and home demonstration agents are part of the University of Florida Agricultural Extension Service. As such, they call upon all Extension specialists and many others for assistance.

Also, the agents have bulletins and circulars on nearly every farming and homemaking subject from the Extension Service, Agricultural Experiment Station, State Department of Agriculture, U. S. Department of Agriculture, and other sources. They can help a person seeking almost any kind of agricultural information–or else refer him to the best source of such help.

County Agricultural Stabilization Committees handle acreage allotments and similar programs. County ASC office managers usually have offices near those of the county agents.

State headquarters for the Agricultural Stabilization and Conservation Committee are at 35 North Main Street, Gainesville.

Vocational agriculture teachers keep well informed on all agricultural problems. They serve 142 white and 48 negro schools.

Principal duty of the "vo-ag" teachers is to conduct day classes for high school students of agriculture. Also, they sometimes conduct night classes for adults.

Because they are in the local communities, the teachers are easily contacted. They are supervised by the State Department of Education, Tallahassee.

Soil tests formerly revealed mostly whether a soil was acid or alkaline. Now, however, they tell a great deal about fertilizer needs as well.

County agents often advise growers regarding fertilizer and cultural practices. But they can make more intelligent recommendations if they know the analysis of the soil.

To aid them in this advisory service, the Agricultural Extension Service operates a soil testing laboratory at the University of Florida. Its technicians analyze samples sent in by county agents and inform the agents of the analyses.

Farmers also take advantage of soil testing laboratories operated by fertilizer companies and others to gain information as to elements contained in their soils and those which are missing.

Research dealing with practically all principal commodities is conducted by the University of Florida Agricultural Experiment Stations in all principal areas of the state.

Growers are welcome at any of these units at any time, and particularly on field days. The Main Station at Gainesville has research departments dealing with the following 15 fields:

Agricultural economics, agricultural engineering, agronomy, animal husbandry and nutrition, botany, dairy science, entomology, food technology and nutrition, fruit crops, ornamental horticulture, plant pathology, poultry husbandry, soils, vegetable crops, and veterinary science.

The editorial department and library provide necessary non-research services.

Dr. J. R. Beckenbach directs the Main Station. He also heads the 10 branch stations and 10 field laboratories which are at strategic locations in specific fields.

Branch stations, their locations, and the men in charge, include:

Central Florida, Sanford, Dr. John W. Wilson; Citrus, Lake Alfred, Dr. H. J. Reitz; Everglades, Belle Glade, Dr. W. T. Forsee; Gulf Coast, Bradenton, Dr. E. L. Spencer; North Florida, Quincy, W. H. Chapman, acting head.

Range Cattle, Ona, Dr. W. G. Kirk; Sub-Tropical, Homestead, Dr. G. D. Ruehle; Suwannee Valley, Live Oak, H. W. Lundy; West Central Florida, Brooksville, W. C. Burns (USDA), and West Florida, Jay, Dr. C. E. Hutton.

The Everglades Station does research work at the Plantation Field Laboratory, Fort Lauderdale. Both the Everglades and the Citrus Stations conduct research at the Indian River Field Laboratory, Ft. Pierce.

Newest of the units is the South Florida Field Laboratory, Immokakee. Its work is directed by the Gulf Coast Station.

Other laboratories are at Hastings (potatoes), Monticello (pecans), Plant City (strawberries), Leesburg (watermelons and grapes), and Lakeland (frost forecasting).

State Department of Agriculture activities cover a wide field. They touch practically every farm family, and most urban ones as well.

Beginning January 1, 1961, activities of the State Plant Board and some other agencies–not now under its jurisdiction–will become a part of the department.

No matter what your problem, a letter addressed to State Department of Agriculture, Tallahassee, will eventually reach the right person. However, here are a few addresses for services in the different fields:

State Seed Laboratory, Mayo Building, Tallahassee (seed testing and certification).

Supervising Inspector, Department of Agriculture, Tallahassee (for fertilizer, feed, gasoline, and other inspection services).

State Marketing Bureau, Box 779, Jacksonville, Florida.

State Farmers' Markets, Nora Mayo Building, Winter Haven.

Poultry and Egg Division, Inspection Bureau, Department of Agriculture, Tallahassee.

Alex Shaw, State Dairy Inspector, Seagle Building, Gainesville. (Be sure to get his approval of plans before you build a dairy barn.)

Plant and port inspection: Since 1915, the State Plant Board has been helping protect growers and beekeepers of Florida and the nation from pests already established and from others not yet widespread in this country.

From its Seagle Building headquarters in Gainesville, the Board supervises inspection of nurseries, apiaries, and citrus groves. It also carries on citrus budwood and lawn grass certification programs.

In cooperation with federal authorities, its workers have eradicated the Mediterranean fruit fly from Florida twice since 1929. They have also cooperated in the burrowing nematode and the fire ant eradication programs.

Quarantine inspection at all seaports and airports, in which the Board formerly cooperated, is now handled entirely by federal authorities.

Diagnostic laboratories are maintained at different points throughout the state by the State Livestock Board. Dr. William L. Sippel, Kissimmee, is the laboratories' director.

Cattlemen may send their animals to Kissimmee, where the state's only large animal diagnostic laboratory is located.

Poultry diagnosis is also done by the Kissimmee lab. Other poultry diagnostic facilities are at Cottondale, Callahan, Dade City, and Miami Springs.

Hatcherymen and others who want their flocks certified in the National Poultry Improvement Plan

(Continued on Page 20)

Experts advise Citrus growers:

Don't - Yet - Use Herbicides in Groves

CONTROL of weeds in groves has long been a perennially pesky and expensive problem to citrus growers.

So far, this problem still exists. But the ever-increasing use, scope, and efficiency of chemical weed killers in the relatively near future may tell an entirely different story.

Growers, however, should not take this encouraging news as an all-out license to use herbicides in their groves now. Such action definitely is *NOT* recommended for the present.

Nevertheless, progress is being made in this field of endeavor. Jack T. McCown, assistant citriculturist with the Florida Agricultural Extension Service, and E. O. Burt, assistant agronomist with the Florida Agricultural Experiment Station at Gainesville, report:

"We are *not yet* recommending herbicides for control of weeds in citrus groves.

"Experiments, however, are being conducted on this problem. And two herbicides—diuron and dalapon—have given encouraging results."

Highlights of their research and demonstrations to date, as summarized by the two scientists, include the following data:

Two or three applications of dalapon—when used at the rate of two to four pounds of commercial material at each application—has been effective in controlling many perennial grasses in citrus groves.

Diuron also shows promise for controlling many annual as well as perennial weeds when used at the rate of four to 10 pounds of commercial material per acre. *Only one application* of diuron should be made.

Very good results also have been obtained when a combination of diuron and dalapon has been used. Repeated applications of dalapon should include diuron in *one application only*.

A range of rates for both materials is suggested. This is because the age of a citrus tree and other factors determine how much chemical a tree will tolerate.

Higher rates are suggested for use around citrus trees which are 15 years or older and in a good growing condition. The lower rates are suggested for young trees.

Other factors too have an effect on determining the tolerance of citrus to these chemicals:

Trees weakened due to nutrition, insect, disease, frost, or other conditions will not tolerate as large amounts of the materials as trees which are growing vigorously. Trees on heavy soils will stand higher rates than those growing on light soils.

Varieties and rootstocks also have an effect on tree tolerance. But the degree of the effect and the tolerance have not yet been determined.

Best grass control, tests indicate, will be obtained when the treatments are applied in the spring. At this time, injury to trees is less likely to occur.

Dalapon should be applied at intervals of three to seven days. A total of two to three applications should be made.

On the other hand, diuron is quite persistent in the soil. Therefore 12 to 24 months should elapse before a second application is even considered.

Bermudagrass appears to be more difficult to kill than maiden cane, pangola, or guinea grass. At the rates presently suggested for use, dalapon appears to be more effective on bermudagrass than diuron.

Diuron and dalapon should be applied in water. Use 25 to 100 gallons of spray per acre. The higher rate is suggested on dense foliage.

Spot-treatment applications of dalapon are desirable for killing weeds which survive the original application of diuron or the two or three treatments of dalapon.

For treating clumps of grasses or other small areas, a spot-treatment application may be made as follows:

Use one pound of dalapon per 10 gallons of water and apply to the grass foliage until it is wet. Insofar as possible, avoid run-off of the spray from the foliage onto the soil.

Repeat this same procedure in three to seven days.

Note: Grasses respond slowly to treatments of these herbicides. Therefore a waiting period of two months or longer should elapse before the final "clean-up" program using the spot-treatment method is started.

Activity of both materials mentioned herein is affected by environmental conditions such as rainfall and soil type. Dalapon and diuron should be used *only at the risk* of injury to citrus trees.

The above suggestions may change as future results are obtained, McCown and Burt emphasize. They also warn:

"Neither dalapon nor diuron have label approval for use in citrus in Florida. Therefore the use of these materials on mature trees may result in the fruit being withdrawn from the market by the Food and Drug Administration."

HERBICIDES HAVE BEEN TESTED in citrus plantings for a number of years. Below is an orange tree in the Orlando area which is being used in the weed control experimental work.

Weed Control Ups Forage Yield

By DR. E. O. BURT
Assistant Agronomist
Agricultural Experiment Station

FORAGE PRODUCTION of most pastures can be increased by controlling weeds.

Good management, however, is essential. In pastures, weeds are often indicators of poor soil and poor management.

There is no substitute for adequate lime and fertilizer plus timely mowing:

When enough lime and fertilizer are added to adequately-drained soils, grasses and legumes tend to prevent weeds from becoming established. Timely mowing will prevent seed production, kill annual weeds, and weaken or eliminate many perennial weeds.

Over-grazing encourages weeds to spread. When pastures are extremely thin and weedy, re-establishing adapted species of superior vigor may be the best practice.

But even under the best methods of maintenance, pasture fields may become infested with weeds. In this case, it frequently is necessary to use weed killers or herbicides.

Control of many broadleaf weeds in grass pastures is readily obtained through the proper application of 2,4-D. The amount of material needed is determined by the weed species to be destroyed.

For example: One-fourth pound of 2,4-D per acre will kill Florida pusley. On the other hand, two pounds of the material—repeated twice yearly for several years—may be needed for wild garlic and wild onion.

One pound of 2,4-D per acre is a rate in common use in grass pasture fields. (See *Agronomy and Plant Pathology Mimeo 58-1* for a list of Florida weeds and their susceptibility to this material.)

At the rate of one-half to one pound of the material per acre, 2,4-D will kill such broadleaf weeds as Florida pusley or Mexican clover, most thistles, young dog fennel, matchweed, lantana, coffee weed or bag-pod, pigweed, spiny amaranth, ragweed, lamb's quarter, and many others.

Warning: 2,4-D also will kill most broadleaf crop plants:

Cotton, tomatoes, and tobacco are easily damaged. Clovers, lupines, soybeans, cowpeas, and other broadleaf crop plants readily succumb to treatments of 2,4-D.

St. Augustine and carpetgrass may be damaged at rates of more than one-half pound per acre.

For killing most broadleaf weeds in grass pastures, 2,4-D should be used at the rate of one-half to one pound acid equivalent per acre.

Most commercial formulations of 2,4-D contain four pounds acid equivalent per gallon. In this case, one-half to one quart of the commercial material should be used per acre.

If the commercial product does not contain four pounds acid equivalent per gallon, adjust the dosage accordingly or follow directions on the label.

Apply the 2,4-D in about five to 30 gallons of water per acre.

Either the amine or ester formulation of 2,4-D can be used. Since the ester formulation is somewhat more effective, it should be used at the lower rate.

The ester formulation is also more volatile and more likely to cause damage to susceptible crops growing nearby. The low volatile ester formulations are less likely to kill susceptible plants than are the high volatile esters.

However, the amine formulation is safer than either of the ester formulations.

Application of 2,4-D should be made when weeds are young and growing rapidly; mature weeds are more difficult to kill. Do not wait until weeds have formed seed.

Cost of sufficient 2,4-D to treat an acre of pasture varies from about 25 cents to 75 cents, depending upon the amount used.

Most broadleaf weeds can be controlled in white clover (including ladino), red clover, alfalfa, birdsfoot trefoil, and alsike clover by the use of a new chemical 4-(2,4-DB).

Presently this chemical is being sold under two different trade names: "Butyrac 118" and "Butoxone." Both of these formulations contain two pounds acid equivalent per gallon.

This material should be applied when the weeds are young. More chemical is required to kill older weeds—and the legumes may be stunted temporarily with the high dosage.

On broadleaf weeds less than one inch in height, the material should be used at the rate of one quart (one-half pound acid equivalent) per acre. For weeds one to three inches tall, two quarts (one pound acid equivalent) of the chemical should be used.

Information is not currently available concerning the tolerance of crimson clover to 4-(2,4-DB). Preliminary tests indicate that sweet clover is killed by this chemical but that lupines are somewhat tolerant.

Cost of 4-(2,4-DB) is about $3.65 per quart.

Brush and vine control: For control of most woody plants and vines, use either 2,4,5-T alone or a mixture of 2,4,5-T and 2,4-D.

On some plants—such as blackberries, poison ivy, sweet gum, and most oaks—the 2,4,5-T is more effective than 2,4-D. On others, it is less effective.

There is little difference in the effect of 2,4,5-T and 2,4-D on the more common weeds or the more common crop plants.

It is from two to three times more expensive to produce 2,4,5-T than 2,4-D. Consequently the former material should be used only where it has a definite advantage over 2,4-D.

For treating "mixed" species of brush, use a mixture of 2,4-D and 2,4,5-T. Mixtures of these materials are known as "brush killers."

These mixtures are especially useful for treating mixed species of brush, some of which are more susceptible to 2,4-D and others more susceptible to 2,4,5-T.

Brush killers should be used at the rate of four pounds acid equivalent in 100 gallons of water and sprayed on the brush foliage in sufficient quantity to thoroughly wet the leaves. Excessive run-off of the spray should be avoided.

Generally, two or more applications—at about six month intervals—are necessary to control hard-to-kill species such as oaks, persimmon, and sweet gum.

For killing palmetto, use brush killer at the above rate in kerosene or diesel or fuel oil instead of water. Two or more applications may be necessary, and one or more years required for the plants to decay.

Consequently it may be desirable to use mechanical methods—instead of chemicals—to kill palmetto.

Use the right chemical, at the right amount, at the right time. Read and *carefully follow* instructions and precautions on the label.

Do not use 2,4-D spray equipment for applying insecticides or other pesticides to desirable broadleaf crops. Such equipment can be used for applying pesticides to livestock, however.

All three materials—2,4-D, 4-(2,4-DB), and 2,4,5-T—are non-corrosive to equipment, non-flammable, and non-poisonous to man and livestock.

The three chemicals are translocated throughout the plant. Hence they will kill both the tops and roots.

Controlling Weeds in Field Crops

EXPERIMENTAL FIELD OF SOYBEANS is inspected by Dr. E. O. Burt, assistant agronomist, Gainesville Experiment Station. The plot on his right was treated with a herbicide; that on his left was not. The bare space behind the untreated plot is a result of an overdose of a weed control material.

WEED CONTROL is one of the major expense items in the production of field crops. But hope for reduced expenditures is in sight:

Research findings on herbicides, when used in conjunction with other good management practices, are resulting in better control of weeds at less cost to the farmer.

Personnel of the Florida Agricultural Experiment Stations have been assisting in this research. Their participation has included experiments, conducted from 1954 to 1958, on the use of herbicides for the control of weeds in peanuts, field corn, soybeans, and oats.

Of particular interest to growers of field crops are the test results and researchers' remarks summarized below:

In peanuts, according to 18 experiments conducted at five different locations during the five-year period, effective control of annual grasses and annual broadleaf weeds was obtained by pre-emergence DNBP applications.

DNBP amine salts for pre-emergence applications was used at the per-acre rate of nine pounds active ingredient in 30 or more gallons of water.

Prior to application, smooth the soil over the seed. Treatment should be made at the time of planting or, preferably, up to one day before peanuts emerge.

To reduce costs, treat a 12- to 14-inch band over the row and reduce the rates proportionately. In this case, costs would run about $5 per acre.

For post-emergence applications, DNBP amine salts should be used at the per-acre rate of three pounds active ingredient in 10 to 20 or more gallons of water.

Treatment should be made when the weeds are less than one inch high. This will burn the peanut foliage, but the plants will recover.

Costs may be lowered by treating a 12- to 14-inch band over the row and reducing the rate proportionately. Post-emergence application of DNBP, in this case, would cost about $1.75 per acre.

Sesone, the most commonly used peanut herbicide in Georgia, has been very satisfactory as a pre-emergence herbicidal spray for peanuts on sandy loam and heavier soils. However, it has not always worked as well when used at planting time on light sandy soils.

During the past two years, sesone has been used with excellent results on all soil types as a post-emergence spray applied at the time of the first or second cultivation.

A cultivator, weeder, or rotary hoe is used to eliminate weeds already growing. The sprayer is mounted on the same tractor, with nozzles just behind the cultivation equipment.

There was some farmer use of post-emergence sesone in 1959 as the result of tests previously conducted by Experiment Station personnel and other workers.

If sprayed overall, the rate of sesone for either pre-emergence or post-emergence use is three pounds per acre. To reduce costs, spray only a 12- to 14-inch band centered on the rows and reduce the overall rate proportionately.

For a 12-inch band on 36-inch rows, the amount for one acre is one pound of sesone—which costs approximately $2.50.

Eight field corn experiments indicated that simazin at one and one-half to two pounds per acre, EPTC at five to 10 pounds per acre, and CDAA at eight pounds per acre are highly effective as pre-emergence treatments in killing annual broadleaf weeds.

Simazin and EPTC as pre-emergence treatments were effective in controlling annual grass weeds also.

Use simazin for pre-emergence treatment at the per-acre rate of one and one-half to two pounds active ingredient in 10 to 20 or more gallons of water.

Treat a 12- to 14-inch band over the row. Apply at planting time or before the corn emerges.

Cost of the simazin pre-emergence treatment ranges from $1.40 to $1.90 per acre. The amount of material used and the quantity bought will make this cost vary.

In corn, effective post-emergence treatments were obtained by applications of 2,4-D at the rate of one-fourth pound (with ester formulations) to one-half pound (with amine formulations) active ingredient in five to 10 or more gallons of water per acre.

Post-emergence applications of 2,4-D may be made **at two different periods:**

Corn may be treated when it is three to 12 inches high. Apply overall when weeds are up, but small.

(Damage to corn is possible if cultivation or windstorms follow soon after the application. The hazard is greater as the corn gets larger and following high temperatures.)

Also, corn may be treated when it is 12 to 24 inches high. Use drop nozzles when putting spray on weeds; keep spray off corn insofar as possible.

Price of these post-emergence treatments ranges from eight cents to 24 cents per acre.

In eight soybean experiments, sodium PCP at eight and 12 pounds per acre was the most satisfactory pre-emergence treatment.

CIPC at six and nine pounds per acre gave nearly as good results.

EPTC at rates of five and 10 pounds per acre gave good control of weeds in most experiments. However it resulted in stunting of the soybeans.

Tests involving oats showed that the amine formulation of 2,4-D gave very good to excellent control of broadleaf weeds with no injury to the oats.

Moreover, the yield of oats was increased from three to eight bushels per acre. The higher the weed population, the greater the increase in yield from the use of 2,4-D.

In most small grains, effective control was obtained by applications of 2,4-D at the per acre rate of one-fourth pound (with ester formulations) to one-half pound (with amine formulations) active ingredient in five to 10 or more gallons of water.

However, the researchers caution: *Use not more than the one-fourth pound rate of 2,4-D amine on oats.*

Applications of 2,4-D should be made after the small grain has fully tillered (four to five leaf stage) but before the grain starts to joint.

WARNING: Neither 2,4-D nor 2,4,5-T should be put in a sprayer that is used for applying insecticides to plants. It is impossible to completely clean these two materials out of the equipment.

However it is possible to clean out most other weed-killing chemicals from spray rigs without too much effort.

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For:
Field Crops
Vegetable Crops
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FASCO is a pioneer in the important field of weed control. Here's where you'll find the most complete line of modern weed control chemicals. Here's where you'll find specialists in weed control who are always ready to assist in solving your problems. So, write or call your nearest FASCO Representative.

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FLORIDA AGRICULTURAL SUPPLY COMPANY

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DIVISION OF WILSON & TOOMER FERTILIZER CO
JACKSONVILLE, FLORIDA

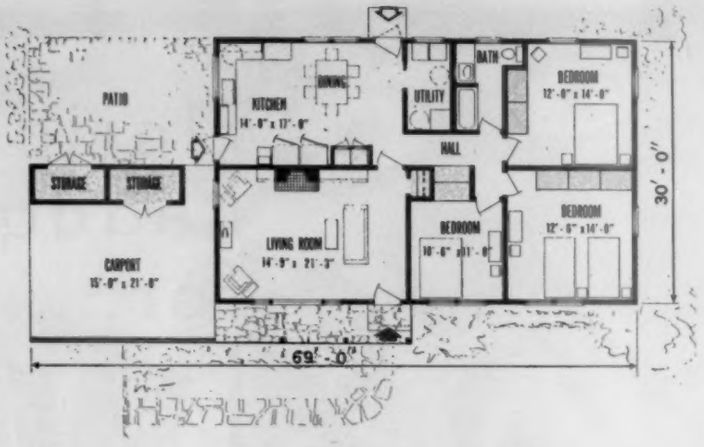
Good Plans for GOOD BUILDING

By T. C. SKINNER

Florida Agricultural Extension Service
Extension Agricultural Engineer

LONG, LOW LINES—are typical of the ranch-style architecture so popular in Florida – characterize the modern three-bedroom home blueprinted in Extension Plan 7138.

The plans were developed by the Agricultural Engineering Research Division of the Agricultural Research Service, U. S. Department of Agriculture. Through the services of the Florida Agricultural Extension Plan Service, these plans



Modern Farmhouse Floorplan

are available without charge to residents of Florida.

Simple lines and interior arrangement make this an economical house to build. The floor plan is spacious and well arranged.

Popular features include a large kitchen and dining area, a huge living room, three well-dimensioned bedrooms, a double carport, and a patio.

Only one bath is shown on the plan. However an adjoining small utility room could easily be converted to a second bath.

If you are interested in obtaining a set of plans for this house, contact your local county or home demonstration agent. Or you may direct your request to the writer, Agricultural Extension Service, University of Florida, Gainesville, Florida.

Ask for Extension Plan 7138.

* * *

Farm 'Phones

Three out of five American farms had telephone service in 1958, according to the Crop Reporting Board.

A USDA survey indicated that as of July 1958, 2.9 million of the country's 4.7 million farms had telephone service. This was a 5% increase over July 1957 and up 32% from 1950.

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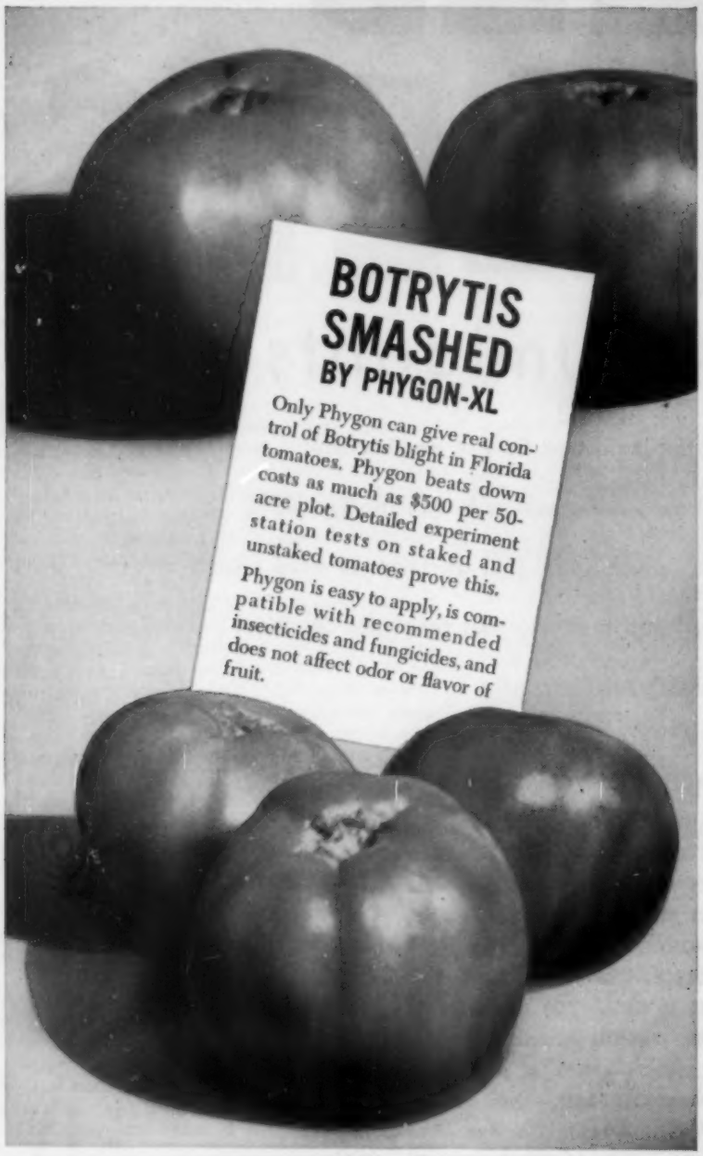
FUNGICIDE
MOST EFFECTIVE, LOW-COST CONTROL!


BOTRYTIS SMASHED BY PHYGON-XL
Only Phygon can give real control of Botrytis blight in Florida tomatoes. Phygon beats down costs as much as $500 per 50-acre plot. Detailed experiment station tests on staked and unstaked tomatoes prove this.
Phygon is easy to apply, is compatible with recommended insecticides and fungicides, and does not affect odor or flavor of fruit.

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producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap, Duraset.

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Why pay more, when economical FLORIDA FAVORITE FERTILIZER meets the specific needs, the specific soil requirements of Florida soil. It more than pays for itself in soil enrichment . . . actually nourishes "dead" soil back to rich, productive life. Saves time and money! Get on-the-spot delivery of fast-spreading FLORIDA FAVORITE FERTILIZER!

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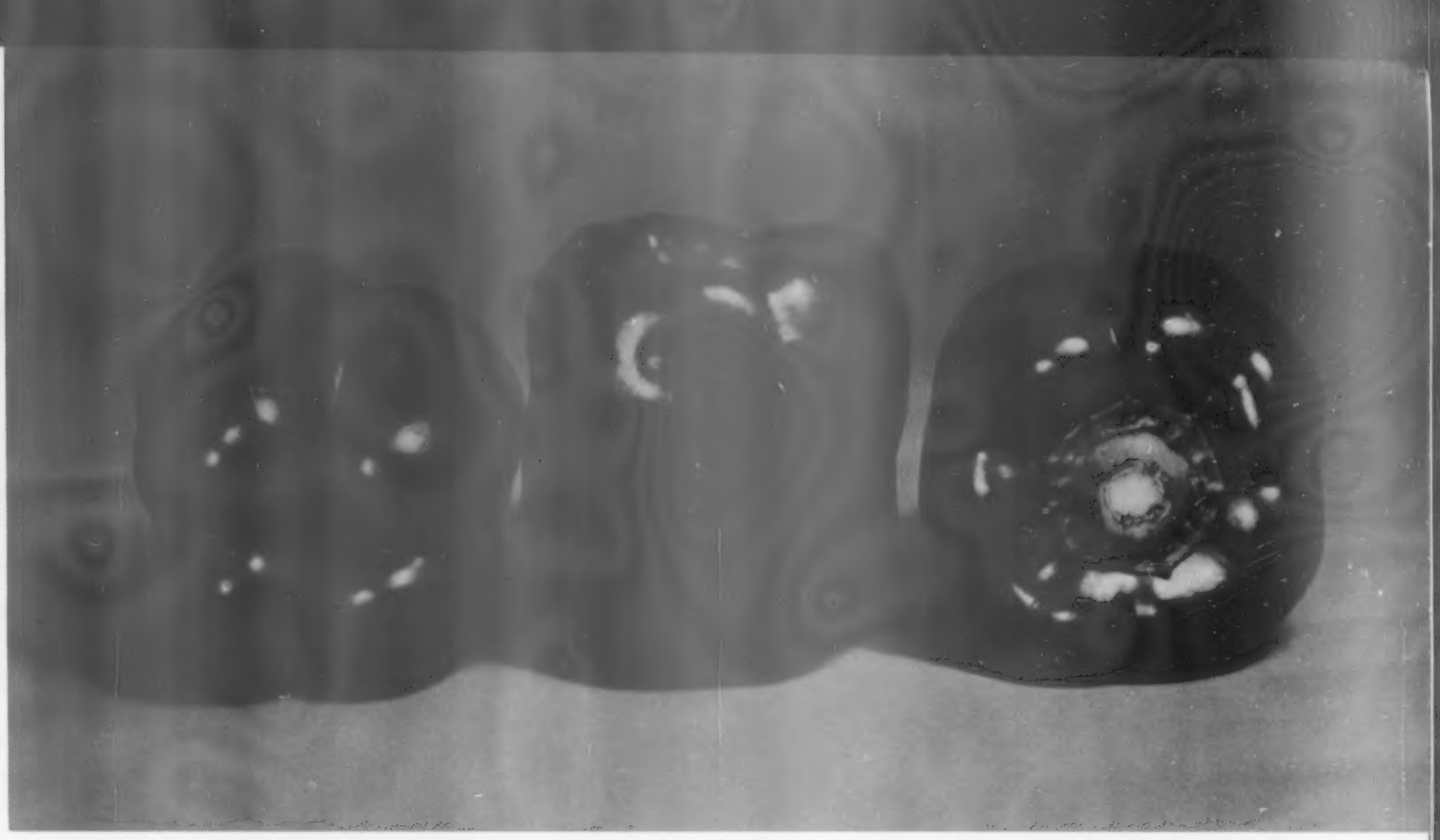

YOLO WONDER IMPROVED B M.R. PEPPER PRODUCES HEAVIER YIELDS, BETTER FRUITS

Because it bears without let-up, for continuous harvest, this improved strain produces heavier yields of No. 1 fruit than regular Yolo Wonder. Upright plants provide denser foliage cover for pendently borne fruits, and are resistant to Tobacco Mosaic. Fruit is predominantly 4-lobed, thick-walled and blocky. Stock up now for the coming season.

Tailor-made for you by FERRY MORSE

LET THE GOOD EARTH PRODUCE

FERRY-MORSE SEED CO.—Detroit, Mich. • Mountain View and Los Angeles, Calif. • Memphis, Tenn. • Harlingen, Texas • Tampa, Fla.

HEAVIER, DEEPLY-CUPPED F-M D5 CELERY HAS MORE SALES APPEAL

A Ferry-Morse development with the stem smoothness, sheen and type of Tall Utah 52-70 that is blockier and heavier with longer, smoother petioles and deeper, brighter color. Thick, deeply-cupped stems average 10½ to 12½ inches to the joint. Resists leaf yellowing due to magnesium deficiency and brown check due to boron deficiency.

SCIENTIFICALLY PACKED, CONDITIONED SEED FOR HIGHER YIELDS

Another result of Ferry-Morse research! Most seed can be injured by excess heat and moisture. Ferry-Morse seeds are dried scientifically to just the right moisture content, then packed in air-tight cans or foil-wrapped packages. Seed stays fresh longer . . . sealed away from moisture, safer from rodents and vermin!

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HOMESTEAD F-M 61 TOMATO BEARS UP TO FOUR QUALITY PICKINGS

This special strain selected by Ferry-Morse breeders is more productive than regular Homestead. Compact, Fusarium Wilt resistant plants allow closer planting, produce heavy early fruit set, and, where adapted, continue to yield quality fruits through third and fourth pickings. Bright-red fruits are smooth, large and deep.

Seasonal Variations in Vegetable Supplies

ARE SUPPLIES of fresh vegetables larger in one season than in another?

Yes, they are. But, adds USDA agricultural economist Will M. Simmons, the variation is not as great as you might expect.

Supplies of many individual fresh vegetables vary greatly from season to season. However, heavy supplies of some vegetables in a particular season tend to offset light supplies of others.

These observations are based on a detailed study of unloads in 20 principal markets during the five years 1953-57. Simmons found:

During the winter months, relatively light supplies of tender crops (asparagus, green beans, sweet corn, squash, cucumbers, green peppers, and tomatoes) combine with relatively heavy supplies of the more hardy items (broccoli, cabbage, carrots, cauliflower, celery, turnips, and rutabagas, spinach, and other cooking greens).

About 21% of the annual supply of all fresh vegetables moves to market in the winter (December-February). In the case of the hardy items, a fourth or more of the annual volume is available during the winter season.

Practically all of this winter production is concentrated in the warmest areas of four of the southernmost states: Florida, California, Texas, and Arizona.

Florida accounts for about a third of the total winter tonnage. It is by far the most important area for tender vegetables.

Virtually all of the winter-season lima and snap beans, sweet corn, cucumbers, eggplant, and tomatoes are produced in Florida. This state also produces large quantities of cabbage and celery.

California accounts for another third of the total winter tonnage; Texas for almost a fourth. Arizona accounts for most of the remaining tenth of the tonnage.

Largest seasonal marketings of fresh vegetables are in the spring and summer. Then, when the weather is warm throughout the country, production is widespread.

On the average, marketings of fresh vegetables (excluding melons) in each of these seasons account for 27 to 28% of the annual total. Thus, in terms of pounds, a fourth more vegetables are available in both spring and summer than in winter.

About a fourth of the annual volume of vegetables for fresh market is available in the fall months. Most items are usually in plentiful supply during early fall.

By late fall, however, cooler weather results in curtailed supplies of most tender vegetables.

Marketing of melons undergoes a marked seasonal variation. More than 80% of the watermelons and about two-thirds of the cantaloupes are available during the summer (June-August).

A large part of the remaining watermelons move to market in late spring. Most of the remaining cantaloupes move in the early fall.

Generally speaking, there is little variation in the quantity of white potatoes moving into consumption channels in the different seasons.

Of course, white potato unloads are usually heavier in spring and summer than in the other seasons. However this is probably due to the heavier movement of seed potatoes.

In contrast to the fairly even flow of white potatoes, about 40% of the sweet potatoes are marketed in the fall months. Only about 10% of the total sweet potato production is available in the summer.

' ' '

"Does this shatter anyone's plans for today?"

Systox®
SPRAY CONCENTRATE
Still your most effective control for aphids and mites on citrus!
A PRODUCT OF
CHEMAGRO

How smart are you?

(Answers to Questions on Page 2)

1. *September.*
2. *A stogy is a coarse boot or shoe; a stogie is a slender cigar.*
3. *The Shetland Islands.*
4. *Three.*
5. *Through inability to hear, they do not mimic sound.*
6. *From a species of grass grown in Ceylon.*
7. *A magnifying glass.*
8. *Ireland.*
9. *The hem or top which is specially constructed to stand garter strain.*
10. *Only if you preferred the services of a baby carriage.*

' ' '

"Hort" Meeting Set

Florida State Horticultural Society will hold its 72nd annual meeting October 27-29 at the Hotel Everglades, Miami. The agenda will include a general membership meeting and three sessions for each of the five horticultural sections.

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special formula Vertagreen® does more for grain . . . more for pastures

Growers everywhere are discovering: it isn't *how little* a fertilizer costs, but *how much* it does that counts. And Armour Vertagreen for Commercial Crops is the quality fertilizer that consistently gives you greater yields of highest quality grain . . . *more profits per acre!*

Fertilize your pastures with Vertagreen for a longer grazing period and more grazing per acre! This means better milk and meat production at a *lower* feed cost. For a pasture that's *worth more*, use the fertilizer that *does more*—Armour Vertagreen.

see your friendly Armour agent right away!

ARMOUR AGRICULTURAL CHEMICAL COMPANY

Where to Go for Help *(Continued from Page 11)*

should contact Dr. D. C. Gilles, State Livestock Board, Tallahassee.

The State Livestock Board also cooperates with the U. S. Department of Agriculture and the US DA's Agricultural Research Service in the campaigns to eradicate the screwworm fly and brucellosis.

Cattle owners may contact either local representatives of the Board or the USDA or the state veterinarian, Dr. C. L. Campbell, State Livestock Board, Tallahassee.

Address mail concerning the former campaign to Screwworm Eradication Headquarters, Box 821, Sebring, Florida. The brucellosis work is in charge of Dr. T. W. Cole, Box 4129, Jacksonville.

Help in soil conservation problems and land use, as well as watershed protection, is extended by the Soil Conservation Service. The service has technicians in most counties.

J. W. Hammett, State Soil Conservationist, may be contacted by a letter addressed to Box 162, Gainesville. The State Soil Conservation Board has offices at the University of Florida, Gainesville.

Soil conservation districts now cover a majority of the Florida counties. District supervisors handle local questions.

Assistance with forestry problems can be obtained through the State Forest Service which has county and district rangers in reach of practically everyone. C. H. Coulter, Box 1200, Tallahassee, is State Forester.

National forest operations in Florida are directed by Joe Riebold. His title and address are: Forest Supervisor, U. S. Forest Service, Tallahassee.

Foresters with the Agricultural Extension Service also help with farm forest problems.

Daily weather forecasts, and hurricane warnings as the threats arise, are issued by the U. S. Weather Bureau. Its principal offices are in Miami and Jacksonville.

From the Miami office, the Bureau also issues thunderstorm warnings—giving growers in the Everglades and Dade County areas time to start their pumps in preparation for heavy rains.

The Frost Warning Service, Lakeland, is operated cooperatively by the Weather Bureau and the Florida Agricultural Experiment Station. During the winter, this agency issues daily frost forecasts which are broadcast by radio stations and published in daily newspapers.

Growers desiring the service can arrange for direct telegraphic frost warnings in advance by paying costs of this service.

Other USDA services: Crop reports are issued from time to time by the U. S. Department of Agriculture from headquarters at 1222 Woodward Avenue, Orlando.

J. C. Townsend Jr. is statistician in charge of the crop reports. Some Agricultural Experiment Station economists are assigned to his staff to help gather the information for the reports.

Citrus production and nematode studies are conducted at the USDA Laboratory, 2120 Camden Road, Orlando. The fine new U. S. Fruit and Vegetable Products Laboratory is at 600 Avenue S North West, Winter Haven.

Presently, the USDA Laboratory

(Continued on Page 24)

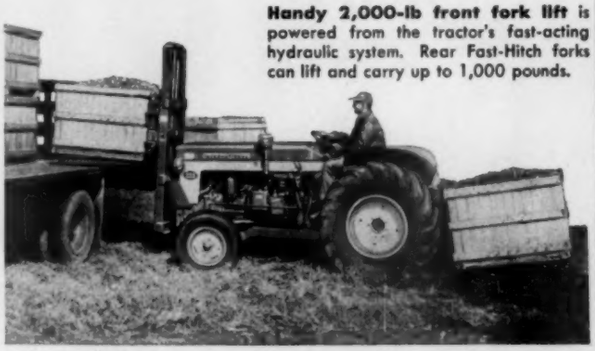
Equip the new International 340 Utility with three-furrow plow, four- or six-row cultivator. New 3-point hitch available for fast, easy hook-ups with your present rear-mounted equipment.

3-plow pull-power... 3,000-lb lift and carry power

International® 340 Utility tractor

Plowing's easier—harvesting is faster and you'll save time on tillage and cultivating, too, with a new International 340 Utility tractor. With full 3-plow power, the International 340 works its way effortlessly through acre after acre with unmatched operator ease and comfort. Built-in brawn provides the International 340 with strength, traction, and IH dependability. At harvest, you can quickly attach a front fork lift and Fast-Hitch mounted rear forks for a total carrying capacity of 3,000 pounds. You'll slash truck loading costs appreciably compared with hand-loading methods and save valuable time. For year 'round service, a versatile, husky International 340 Utility is your best 3-plow power buy. Ask your IH Dealer to demonstrate... call him today!

For new catalog on International and Farmall 340 tractors, write International Harvester Company, Dept. FGR-9, Box 7333, Chicago 80, Illinois.



Handy 2,000-lb front fork lift is powered from the tractor's fast-acting hydraulic system. Rear Fast-Hitch forks can lift and carry up to 1,000 pounds.

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4 Gauge (.004).....2¢ Sq. Ft.	3', 4', 10', 12', 14', 16'
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Control diseases more effectively with Du Pont fungicides

Here's your route to bigger yields and bigger profits this season—disease control that's both effective and economical, with Du Pont fungicides. All these fungicides are fully registered for use in Florida and have long records of excellent disease-control performance. Just check your crop and the disease that threatens it on this chart—and use the recommended Du Pont fungicide for safe, sure control. Bring this type of superior disease protection to your crops. See your Du Pont dealer today.

MANZATE® guaranteed to be 80% active

maneb fungicide

"Manzate" provides a typical example of the effectiveness of Du Pont fungicides. In more than 12 years of testing and field experience in all the important tomato areas, "Manzate" has consistently rated among the top fungicides for controlling the major fungus diseases of tomatoes. During the severe tomato-disease attacks of 1958, records show that fields treated with "Manzate" averaged better than 75% higher yields than fields not treated with "Manzate".

• • •

Avoid hand-weeding costs, control soil fungi and nematodes with Du Pont VPM

soil fumigant

Fumigate vegetable plant beds with Du Pont VPM for pre-emergence weed control. VPM also eliminates disturbing of plants and prevents losses from damping-off fungi and nematodes in Florida vegetable crops. Du Pont VPM is easy to apply and requires no expensive equipment.

• • •

KARMEX® for weed control in gladiolus

diuron weed killer

Get selective control of weed seedlings like lamb's-quarters, purslane, shepherd's-purse, pigweed, wild mustard, and crabgrass in gladiolus plantings with Du Pont "Karmex" diuron weed killer. Apply "Karmex" for pre-emergence or post-emergence control any time there's enough soil moisture to carry it to the root zone.

On all chemicals, always follow label instructions and warnings carefully.

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

CROP	DISEASE	USE THIS DU PONT FUNGICIDE FOR EFFECTIVE CONTROL
Tomatoes	Late Blight • Early Blight • Gray Leaf Spot Septoria Leaf Spot	Manzate® *maneb fungicide*
	Botrytis *(gray mold)*	Thylate® *thiram fungicide* or Fermate® *ferbam fungicide*
Potatoes	Blights *(early and late)*	"Manzate" or Parzate® *liquid nabam fungicide* or Parzate® *dry zineb fungicide*
Celery	Blights *(early and late)*	"Manzate" or "Parzate" *Liquid* or "Parzate" *Dry*
	Early Blight • Rhizoctonia *(in celery plant beds)*	"Thylate"
Beans—Snap and Field	Rust	"Manzate"
	Rust and Anthracnose	"Parzate" *Dry*
Beans—Lima	Downy Mildew	"Manzate"
	Downy Mildew and Anthracnose	"Parzate" *Dry*
Cucurbits	Anthracnose Downy Mildew Most Leaf-Spot Diseases	"Manzate" or "Parzate" *Liquid* or "Parzate" *Dry*
Peppers	Leaf Spots Anthracnose	"Parzate" *Liquid* or "Parzate" *Dry*
Crucifers	Downy Mildew Alternaria Leaf-Spot	"Manzate" or "Parzate" *Liquid* or "Parzate" *Dry*
Watermelons	Anthracnose Downy Mildew Gummy Stem Blight	"Manzate" or "Parzate" *Dry*
Onions	Downy Mildew . Blast Purple Blotch	"Manzate" or "Parzate" *Liquid*
Gladiolus	Rust . Botrytis Curvularia Stemphylium Leaf and Flower Spots	"Manzate" or "Parzate" *Liquid* or "Parzate" *Dry*

TUNE IN DAILY to the "Du Pont Farm Market and Weather Roundup"
Monday through Friday
Starting Sept. 7, 1959
At 5 P.M.: Auburndale WTWB • Fort Myers WMYR • Fort Pierce WARN • Ocala WHYS
Belle Glade WSWN • Bradenton WBRD
At 5:10 P.M.: Homestead WSDB

Citrus Fertilizer Applications

EITHER TWO OR THREE citrus fertilizer applications per year are satisfactory under normal conditions, both research and grower experience have shown.

Applications may be made in the fall, winter, and late spring, or at any two of these times. Timing of applications, say Citrus Experiment Station scientists, is less important than the total amount of fertilizer used per year.

On the other hand, the timing practice chosen should be followed consistently. Frequent changes, growers are warned, may adversely influence the bearing habit of the trees.

Research has shown that citrus requires 15 different chemical elements for healthy growth. Twelve of these must come from the soil or from applied fertilizers, soil amendments, or nutrient sprays.

All 12 of these elements—nitrogen, phosphorus, potassium, magnesium, manganese, copper, zinc, calcium sulfur, boron, iron, and molybdenum — are now being applied to some Florida citrus groves.

The other three essential elements—carbon, hydrogen, and oxygen—are provided by air and water.

Citrus will survive under a wide range of nutrient levels. The best guide for determining the amount of fertilizer to use on bearing trees is the production capacity, based on yield records of the past several years.

It is impossible, declare the scientists, to outline a single fertilizer program that is better than all others for all conditions. A wide variety of programs is in use, and many are producing high yields of good fruit.

Specialists emphasize that the amount and quality of the fruit crop in any one year are not determined solely by the ratio of elements or the rates used in any single fertilizer application. They explain:

Amount and quality of a crop are influenced by all cultural practices previously carried out and by environmental conditions of the past several years. These include insect and disease control, irrigation, soil condition, weather, and other factors in addition to fertilizer practice.

* * *

Killing Nutgrass

SEVERAL CHEMICALS will kill nutgrass on cropland:

Repeated applications of 2,4-D, combined with tillage, are effective in reducing the stand of nutgrass. The number of applications depends upon the number of tubers in the soil.

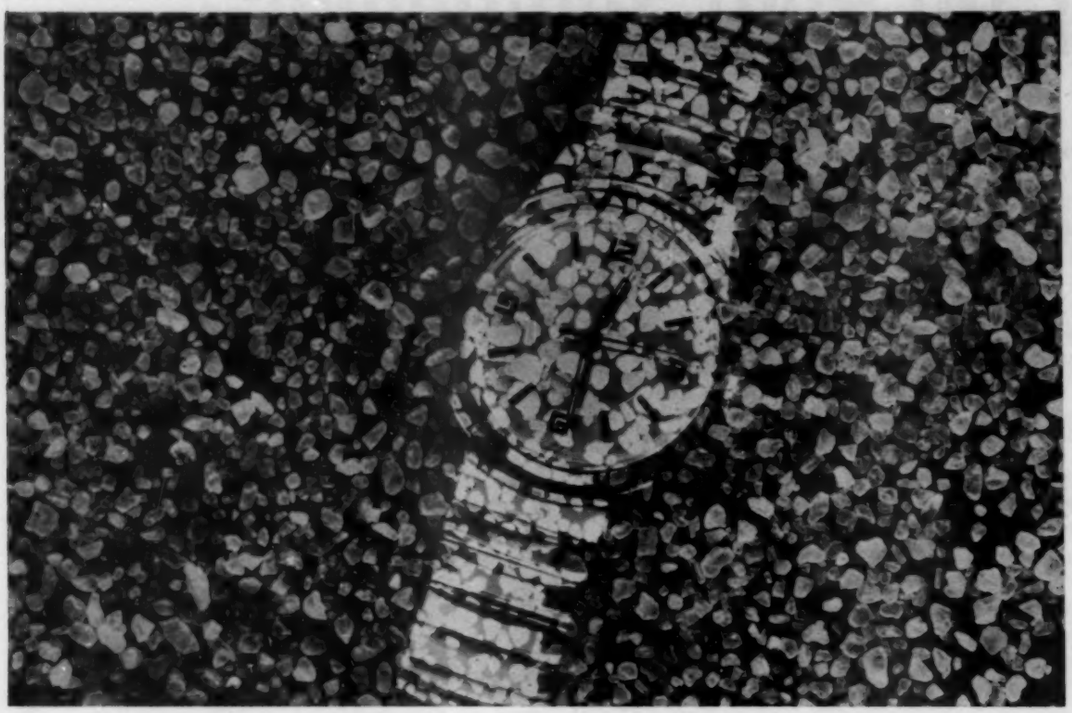
However, 2,4-D is not effective on dormant tubers. This is primarily because it kills only one tuber in the chain.

Amino triazole is translocated from one tuber to another. Therefore this chemical is more effective on dormant tubers than 2,4-D.

In addition, temporary soil sterilants—such as a Vapam or VPM, Mylone, and methyl bromide — effectively kill nutgrass.

The most economical material is 2,4-D. On the other hand, it is also the least effective.

Methyl bromide is the most effective—as well as the most expensive—means of killing nutgrass.



SUL-PO-MAG is granular... times itself to release magnesium as trees need it

There are several ways to give your citrus trees needed magnesium. Some sources dissolve too fast and leach out of the soil too soon. Others require chemical action in the soil before they become useable. But Sul-Po-Mag times itself just right to give your trees a lift *when they need it* . . . and it stays in the soil to give you season-long protection.

Sul-Po-Mag is granular. It dissolves at a controlled rate because less total surface area is exposed. Sul-Po-Mag is water soluble . . . it doesn't have to wait for acids from soils and roots to make it available. Early in the season . . . late in the season . . . Sul-Po-Mag is ready when needed.

Give your citrus trees the magnesium protection they need. Help them produce healthy growth for improved fruit quality and yields with water soluble double sulphate of potash-magnesia.

Ask for it by name. Get Sul-Po-Mag in the mixed fertilizers you buy. See why it's your best season-long insurance for top-picking yields.

S·P·M PREMIUM — Quality fertilizer containing a combination of readily available magnesium and sulphate of potash obtained from Sul·Po·Mag

Look for this identifying Seal of Approval when you buy. It's your assurance of extra-value fertilizer.

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Dept. FGR-42, Skokie, Ill.

Please send me a free copy of your "Magnesium" Booklet which discusses magnesium and Sul-Po-Mag for specific crops.

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Canada Removes Ban on Artificially Colored Oranges

CANADA once more will become an important outlet for fresh Florida oranges—now that its government has lifted a three-year-old ban on artificially colored oranges.

Five seasons ago, Canada bought 750,000 boxes of Florida oranges. Most of that fruit had enhanced color.

But because of the ban in effect since October 1956, shipments to Canada during the season just ended totaled only 278,000 boxes of oranges. All of those boxes contained naturally colored fruit.

Lifting of the ban was announced by Florida Citrus Mutual's export coordinator, Martin E. Hearn. He had known for almost two months that it probably would be done, but had to sit on the information until Canada's cabinet council gave its official approval.

When the cabinet council finally did act, Fred Rossiter, agricultural attache in the U. S. Embassy in Ottawa, immediately telephoned the news to Mutual's export coordinator.

(Acting on behalf of the entire industry, Florida Citrus Mutual signed the formal request made to the Canadian government that the ban be lifted.)

Canada's action followed official approval by the U. S. government of a new dye for use in enhancing the color of oranges. It was instigated by Canadian food and trade officials.

Unhappy about the loss of their formerly lucrative Florida fresh orange business, the Canadian officials approved the new dye several weeks ago. They thereupon urged the Canadian department of health and welfare to reconsider the ban.

Shortly afterwards, the department made the recommendation upon which the cabinet council acted.

Many industry leaders have hailed the Canadian government's action. All subscribe to the following declaration:

"With the Florida industry trying to find ways and means of reversing a downward trend in fresh market sales, anything which will help the fresh citrus market certainly is welcome."

John T. Lesley, Florida Citrus Exchange general manager, reports that his organization lost about 25% or more of its Canadian business as a result of the ban on colored oranges. He adds:

"Removing the ban opens the door for Florida oranges once again so we can take advantage of this highly important market for fresh Florida citrus."

Homer E. Hooks, general manager of the Florida Citrus Commission, has also expressed gratification at Canada's removal of the ban.

Removal of the Canadian ban may benefit Florida's fresh fruit market in Europe, too. This action could pave the way for Germany and Holland also to lift their restrictions on colored Florida oranges.

"This means not only that the Canadian market is again wide open to Florida oranges," Hearn says, "but it will give us a strong lever in our efforts to get German and Dutch officials to lift their bans on our color-add fruit."

Canada has the strictest health laws of any country in the world. In view of this fact it is hoped that the Germans and Dutch, seeing that Canada has agreed to permit importation of colored oranges, will be disposed to follow suit.

Florida will have the official help of the U. S. Department of Agriculture in trying to convince the German and Dutch governments that the present approved dye for Florida oranges is harmless.

Now Available to Florida Citrus Growers

DELNAV

An Outstanding New Material Offering Exceptional Economy and Convenience in the Control of Mites on Citrus

Delnav, a product of Hercules Powder Company's Agricultural Chemicals Laboratory, is a *complete miticide* in itself. In Florida it is recommended for control of RUST MITES, PURPLE MITES, TEXAS CITRUS MITES, and SIX-SPOTTED MITES. Exhaustive tests and large-scale demonstrations with Delnav on citrus have been completed in time to present it to Florida growers for the Fall and Winter season.

Long Lasting—Economical

Delnav has a long residual action that continues to give effective mite control many weeks after treatment. One application is usually adequate to prevent damage from October through post bloom. Delnav gives control of all the major mites that damage citrus at less cost than you may already be paying for control of purple mites alone.

Available Through Your FASCO Dealer

Delnav will be available in all Florida citrus areas through your local Florida Agricultural Supply Company Dealer. Put Delnav's advantages to work for you *this season.*

HERCULES POWDER COMPANY

INCORPORATED

134 PEACHTREE STREET
ATLANTA 3, GEORGIA

NN 59-1

Where to Go for Help *(Continued from Page 20)*

for the Study of Insects Affecting Man and Animals is in Orlando; however, airport expansion is forcing it to move. It may be relocated in Orlando, or in some other city—possibly Gainesville.

The U. S. Department of Agriculture cooperates in many of the agricultural activities in Florida, including those of the Agricultural Experiment Stations and the Agricultural Extension Service.

Anyone desiring publications from the USDA can obtain them by writing to: Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

Howard G. Eisaman—whose address is 4022 South West Bryan Boulevard, Fort Lauderdale — administers the federal milk marketing order for the Miami milkshed.

M. F. Miller, Lakeland, is the man to contact when a marketing agreement and order are wanted for any commodity.

When you need credit: In addition to private lending agencies and banks, Florida growers have access to a number of sources of federal credit.

Cooperatives borrow from the Bank for Cooperatives. Sources of credit for individuals include the following:

Farmers' Home Demonstration, Box 579, Gainesville; William T. Shaddick, State Director. (Has representatives in many of the counties.)

Farmers Production Credit Association, Box 665, Riverside Station, Miami.

Bradenton Production Credit Association, Box 71, Bradenton.

Lakeland Production Credit Association, Box 1150, Lakeland.

Central Florida Production Credit Association, 1916 N. Orange Avenue, Orlando.

Florida Citrus Production Credit Association, Box 2111, Orlando.

Northeast Production Credit Association, Box 328, Palatka.

Gainesville Production Credit Association, Box 102, Gainesville.

North Florida Production Credit Association, Box 660, Live Oak.

Monticello Production Credit Association, Box 307, Monticello.

Marianna Production Credit Association, Box 330, Marianna.

Mortgage loans by the Federal Land Bank of Columbia are made through the National Farm Loan Associations. There is a strong possibility the name will be changed to Federal Land Bank Associations.

Offices of this organization are in Pensacola, Marianna, Gainesville (with a sub-branch in Live Oak), Orlando, Lakeland (with a sub-branch in Vero Beach), Tampa, Bradenton, and Miami (with a sub-branch in Belle Glade).

Farmers can obtain social security information from their nearest Social Security office, usually located in the county seat, or from the Internal Revenue Service, Jacksonville 1, Florida.

Three state commissions, with regulatory and promotional duties deal with as many Florida commodities. They and their chief executives are:

Florida Citrus Commission, Homer Hooks, General Manager, Lakeland.

Florida Egg Commission, Carl L. Binger, Manager, County Court House, Tampa 2, Florida.

Florida Milk Commission, Howard G. Walton, Administrator, Dorian Building, Tallahassee.

The Florida Development Commission now publicizes and promotes Florida agricultural products, B. R. Fuller Jr., Tallahassee, is Executive Director.

Help on health matters may be obtained by contacting your county

"I've never had an ORTHO® product that didn't work!"

States Fred Pippin (pictured above left with ORTHO Fieldman Webster Carson) who grows peppers, pole beans and strawberries on his 100 acre farm near Plant City: "I find ORTHO sprays and dusts to be reliable. I've never had an ORTHO product that didn't work—they always give me the control needed in producing quality crops. And our ORTHO Fieldman keeps us abreast of the latest infestation problems in our fields."

For higher yields, better prices, protect your crops with ORTHO. This report is just one of many received from leading Florida growers who have found that ORTHO products help them grow better quality crops. And, when you buy ORTHO products, all the personal, on-your-ground technical advice and expert services of your ORTHO Fieldman are provided without any extra charge.

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T.M. REG. U.S. PAT. OFF.: ORTHO. ON ALL CHEMICALS, READ DIRECTIONS AND CAUTIONS BEFORE USE.

For full information, see your nearest ORTHO Fieldman:

Apopka, Fla.	James Nichols	Lakeland	Jean E. Mabry	Orlando	John Nowell
Boynton Beach	Walter Whittaker	Leesburg	Charles Ashley	Plant City	Webster B. Carson
Ft. Myers	Art Alberty	Miami	Dick Acree	West Palm Beach	Perry L. Sparkman
Lake Alfred	J. S. Murphy, Jr.	Orlando	Cliff Sutton	Deland	Randall Williams

PLACO

ACTIVATED HORMONE

A blossom set with added features for Tomatoes, Strawberries, Cucumbers, Lima Beans. Greatly increases production — higher percentage of first quality fruit that keeps longer—better.

Developed by Dr. Emmert of the University of Kentucky as reported in American Vegetable Grower, Radio, Newspapers, etc. Patented by Kentucky Research Foundation.

Write

PLACO Box 1389 Lexington, Ky.

Cabbage Costs and Returns

THE AVERAGE GROWER of cabbage in the Hastings area lost 16 cents per 50-pound sack or crate of cabbage sold during the five-season period 1952-57.

So indicate records of costs and returns compiled by the Florida Experiment Stations' department of agricultural economics. Dr. D. L. Brooke, associate agricultural economist, reports the records show:

Cost of producing and harvesting a 50-pound sack or crate of cabbage averaged $1.17 during the five-season period. Average f.o.b. price was only $1.01.

Small growers—those having 40 or fewer acres—had lower average yields (368 sacks or crates) per acre, higher costs ($1.23) per unit of production, and larger losses (28 cents per sack or crate) than medium or larger growers.

Medium-sized growers, with 41 to 80 acres of cabbage, had the highest yields (435 sacks or crates) per acre. Their net loss was 13 cents per 50-pound sack or crate of cabbage.

Interestingly enough, production costs of medium-sized growers totaled slightly more—$497.67 as compared to $451.96 and $470.71 respectively—than similar figures for the small and large growers. Nevertheless, the average per-unit production cost ($1.14) of this group was slightly below the per-unit average for all growers.

Large growers, having over 121 acres in cabbage, had lower per-unit costs ($1.11) and lower net losses (one cent per sack or crate) than the other groups. Their yields averaged 425 sacks or crates per acre.

* * *

If you are big enough, your troubles will be smaller than you are.

Where to Go for Help

(Continued from Page 24)

health unit or by writing: State Board of Health, Box 210, Jacksonville 1, Florida.

Organizations assiduously looking after the interests of farmers and growers include:

Florida Farm Bureau, T. K. McClane Jr., Executive Vice President, 4350 South West 13th Street, Gainesville.

Florida Citrus Mutual, Robert W. Rutledge, General Manager, Lakeland.

Florida Fruit and Vegetable Association, Joffre David, General Manager, Box 6787, Orlando.

Florida Nurserymen and Growers' Association, Jim Griffin, Executive Secretary, 286 W. Mashtie Drive, Key Biscayne, Miami 49, Florida.

Florida Dairy Farmers' Federation, Box 3057, University Station, Gainesville.

State Dairymen's Association, Robert Freeland, Executive Secretary, Box 3147 M. S. S., Tallahassee.

Florida Dairy Producers' Association, E. T. Lay, Executive Secretary, 615 Park Street, Jacksonville.

Florida Cattlemen's Association, Elmo Griffin, Treasurer, Kissimmee. (J. R. Gunn, who has been Executive Secretary for many years, has announced his intention to retire October 31 and a replacement has not been named when this was written.)

Florida Swine Producers' Association, George Dyrden, President, Marianna.

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• Matures crops earlier! • Minimizes rotting! • Comes in 3 and 4 ft. widths, 500 and 1,000 ft. long! • Sunlight-resistant! • Light weight.... inert to soil and chemicals!

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TELEPHONE CHerry 1-5331

Potato Wireworm Control Is Experimentally Achieved

CONTROL of the southern potato wireworm, a major insect pest in southeastern early-season potato producing areas, has been experimentally achieved with several organic chemical insecticides.

So announces the USDA following field plot tests made in cooperation with the South Carolina Agricultural Experiment Station at Charleston. Entomologists of the USDA's Agricultural Research Service report:

Parathion, Diazinon, ethylene dibromide, Thimet, and two experimental materials—AC 18, 133 and SD 4402—gave 82 to 96% reduction of the pest.

Each of the insecticides was applied on field plots in the late fall. Within one and one-half hours after application, the insecticides were mixed into the upper four inches of soil by running a double-disk harrow across the plots.

Degree of control was determined by screening samples of soil from each plot 33 days later and determining the mortality of wireworms that had occurred in the samples. The findings were as follows:

AC 18, 133 gave 96% reduction of the pest. Thimet, parathion, SD 4402, and ethylene dibromide gave 93% control; Diazinon, 82% control.

Residual effectiveness of the six materials, as tested by placing wireworms in cans containing samples of soil taken from plots treated 36 and 83 days earlier, was as follows:

SD 4402 was completely effective against wireworm larvae in the 36-day-old samples. It was 80% effective in the samples taken 83 days before.

In the 36-day-old samples, AC 18,133 proved to be 89% effective. Diazinon was 56% effective in this same test.

The other three insecticides, the researchers report, failed to control the wireworms over any desired length of time.

Wireworms are the soil-inhabiting larvae of a group of insects known as click beetles or snapping bugs. When placed on their backs, the adult beetles snap their bodies with an audible click, throwing themselves upward in the process.

Other wireworms have one generation every one to five years. However, the southern potato wireworm has two generations each year.

It is the late generation that overwinters in the soil and causes damage to Irish potato tubers in the spring.

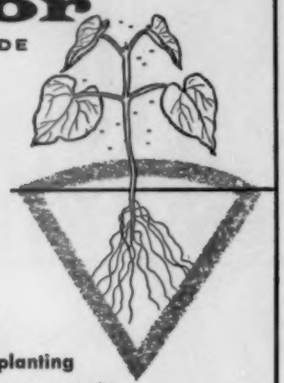
Southern potato wireworms are usually most injurious to potatoes grown in soil where weeds or cover crops grew in late summer and early fall of the previous season.

Usually, the pests are not abundant during winter and spring in fields (1) that were planted to vegetables during the preceding fall, (2) kept fallow during the preceding late summer and fall, and (3) planted to summer-fall cover crops which were sprayed or dusted with parathion to control leaf-feeding insects.

"One thing you can say for Harry—he puts up good fence posts."

An optimist sees an opportunity in every calamity . . . a pessimist, a calamity in every opportunity.

Control soil diseases
with
Terraclor
THE NEW SOIL FUNGICIDE



For: **Beans**
(Stem Rot, Root Rot, White Mold)
Lettuce
(Leaf Drop, Bottom Rot)
Potatoes
(Scab, Rhizoctonia)

Increase yields and profits
- permits earlier planting
- eliminates the cost of replanting
- gives earlier and more even maturity
- reduces amount of seed required for a good stand
- provides more efficient insect and weed control
- provides more efficient use of fertilizer and water
- increases yields through uniform stands of healthy plants

Get these Terraclor benefits

Long Residual—one application gives control until harvest (lettuce requires two applications for bottom rot).

Compatibility—Terraclor is compatible with most other pesticides and may be combined with other fungicides as Captan or Phygon where a disease complex exists.

Safe-To-Use—Terraclor is relatively non-toxic to crops and humans and is non-injurious to metal machinery or equipment.

Other Terraclor uses

Turf (Brown Patch)—Terraclor gives excellent control of Brown Patch and the longer residual action means fewer applications.

Ornamentals (Stem Rot, Root Rot, Crown Rot, Black Rot, Blight)—Terraclor increases yields of high quality flowers and bulbs, provides well developed root systems and promotes uniform and timely flowering.

For Bacterial Leaf Spot of Tomatoes and Peppers
Phytomycin
the new liquid antibiotic

Phytomycin not only protects the crop, but often eradicates after infection. It is a 20% streptomycin solution, and the only liquid antibiotic for plant diseases. Contact these Distributors for Phytomycin: Irwin Grain Co. (Kendall); Jackson Grain Co. (Tampa); West Coast Fertilizer Co. (Tampa).

Write for fully descriptive literature on Terraclor and Phytomycin.

MATHIESON
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CHEMICALS DIVISION • INSECTICIDE PRODUCTS DEPARTMENT
BALTIMORE 3, MD. • EAST POINT, GA.

Contact these Distributors for Terraclor:
Agricultural Insecticide Co., Inc. (Belle Glade); Collins Chemical & Supply Co., Inc. (Miami); Florida Agricultural Supply Co. (Jacksonville); Fuco Chemical Co. (Live Oak); Irwin Grain Co. (Kendall); Jackson Grain Co. (Tampa); Kilgore Seed Co. (Plant City); Walker Fertilizer of Florida, Inc. (Orlando); Wedgworth's Inc. (Belle Glade); West Coast Fertilizer Co. (Tampa)

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"It takes a good grower to grow fine cantaloupe year after year," says Lawrence Robinson Jr. "He knows that the quality of the seed he plants has a direct bearing on the size of his harvest profits. And that's why he plants Robinson selections like this popular PMR 45A. It's one of nearly seventy varieties our breeders have improved for maximum yield, quality and disease-resistance during almost one hundred years of specialized breeding for specific growing conditions and market demands. Ask your supplier for Robinson Vineseeds, with the bright blue SRS label. And write me for cantaloupe information."

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"MAN, what a tractor!
Believe me...until you've actually driven a
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you can't fully appreciate the
POWERFUL DIFFERENCE!"

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considering pull-power...convenience...and

I always liked the way Case builds an engine . . . with plenty of muscle and extra lugging ability that you don't find in "automotive type" farm tractors. Case puts a man-sized crankshaft into that engine with extra-large bearing surfaces . . . removable sleeves . . . plus added precautions to seal out dust and grit . . . in fact, everything that makes for top performance. And, of course, Case engines have always been famous for economy.

But I like even better the way Case-o-matic Drive puts that big engine to work. Case-o-matic Drive takes the extra lugging power fed into it by the Powr-Torq engine, automatically increases pull-power up to 100% as needed—without clutching, shifting or stalling. That's the POWERFUL difference!

I could hardly believe big power could be controlled so precisely. You sure appreciate the absence of the usual clutch grab common to other tractors. Instead my new Case-o-matic eases into tight quarters smoother than fuzz on a peach. Backing into implement hitches is a breeze with Case-o-matic's close foot-accelerator and brake control.

We started a heavy wagon in high gear . . . and held her on a grade with only the accelerator. Entering a highway in this kind of a situation could have been risky with my old tractor . . . but not with my new Case-o-matic! When the road was clear, the dealer advanced the throttle and we moved smoothly out. He flipped into direct drive . . . and we traveled over the highway at a fast time-saving clip.

But what really amazed me was the NON-S

and that big **CASE** *engine works at fu*

I'd read about non-stop plowing with a Case-o-matic tractor, but couldn't quite believe it . . . until now! With an ordinary tractor, there's nothing to do when you hit a tough spot but stop and shift. But Case-o-matic Drive senses those tough spots instantly, precisely . . . automatically increases pull-power up to 100% without clutchi

PROVE IT...

IS *THE BUY* THIS FALL

l a "deal" you just can't pass up!

I'll never seen PTO performance like this! With Case-o-matic Drive, the independent PTO always has priority on engine-power. We pulled into a heavy crop, and uphill or down . . . no matter what the tractive condition . . . PTO speed stayed steady. I've operated 'em all but, only with Case-o-matic Drive can I regulate forward speed of the tractor to match crop and field conditions exactly. When I'm in torque converter, I can apply the brakes to slow down without affecting PTO rpm.

What pull-power! You should see this tractor pull away from a dead stall with all 5 bottoms 7 inches deep. To demonstrate Case-o-matic's tremendous pull-power, the dealer first deliberately stalled the tractor in direct drive...and stepped out of the seat onto the platform. Then he flipped into torque converter, turned the ignition key, opened the throttle, and the tractor started plowing again smooth-as-silk . . . without even touching the clutch.

The efficiency range indicator keeps you "on the beam". When you're in direct drive and the tachometer needle falls below the efficiency range . . . flip to torque converter with its double pull-power reserve. Flip back to direct drive after you're through the tough spot.

ON-STOP PLOWING . . .

at full efficiency all the time

t clutching, shifting or stalling. For normal plowing, work in direct drive. Then . . . when those tough ots start pulling down engine rpm, I flip into torque nverter on-the-go. And . . . when that Case Powr-rq engine and torque converter team up, you really ve the full power you need for non-stop plowing.

NOBODY will give you a BIGGER TRADE ALLOWANCE this fall than your CASE DEALER!

You can expect the deal of a lifetime from your Case dealer because he's gunning for his biggest year in history. He'll make it mighty easy for you to own a Case tractor . . . conventional transmission or Case-o-matic . . . power steering . . . complete hydraulics . . . any way you want it. Tell him how much you have to have for your tractor. Chances are he'll surprise you and say, "It's a deal!"

Yes, CASE dealers all over the country are TRADING HIGH

See your Case dealer today

Just name the time, the place and the Case tractor you'd like to try...

12 DISTINCT POWER SIZES—124 MODELS

200 2-Plow Gasoline Tractor; 4-speed, 12-speed tripl-range and shuttle transmissions. Standard 4-wheel, row-crop with dual wheels or adjustable front axles; standard or constant PTO; Snap-lock Eagle Hitch.

300 3-Plow Tractor; diesel, gasoline, LP-gas fuel; 4-speed, 12-speed tripl-range and shuttle transmissions; standard 4-wheel, row-crop with dual wheels or adjustable front axles.

400 3+Plow Tractor with Case-o-matic Drive; gasoline or LP-gas fuels; 4 or 8 working ranges, shuttle; standard 4-wheel, dual wheels, adjustable front axles.

500 3-4 Plow Tractor; gasoline, LP-gas; 4-speed, 12-speed tripl-range, shuttle transmissions; standard 4-wheel, row-crop with single or dual wheels, adjustable front axles; complete hydraulics.

600 4-Plow Tractor with Case-o-matic Drive; gasoline, LP-gas; 4 or 8 working ranges, shuttle; standard 4-wheel, row-crop with single or dual wheels, adjustable front axles.

700 4-5 Plow Tractor; diesel, gasoline, LP-gas, distillate fuel; 8-speed dual-range transmission; standard 4-wheel, row-crop with single or dual wheels, adjustable front axle; dual-control hydraulics and Eagle Hitch.

800 5-Plow Tractor with Case-o-matic Drive; diesel, gasoline, LP-gas; 8 working ranges; standard 4-wheel, row-crop with single or dual front wheels, adjustable front axles.

900 6-Plow Tractor; diesel or LP-gas; 6 forward speeds; standard 4-wheel; power steering and dual-control hydraulics; deluxe comfort seat.

310 Hi-torque 42 gross horsepower* Case gasoline engine with 3-speed transmission. Available with hydraulics, PTO, belt pulley, toolbar-dozer combination, 3-point hookup or Snap-lock Eagle Hitch.

610 Choice of gas or diesel 62 gross horsepower* engine. Terramatic Drive transmission. Four gear ranges forward and reverse. Hydraulic power shift. Dual control hydraulics. Toolbar-dozer combination available.

810 80 gross horsepower*, diesel engine. Terramatic Drive transmission. Independent power control of each track. Four gear ranges forward and reverse. Dual-control hydraulics. Toolbar-dozer combination available.

1010 100 gross horsepower* diesel engine. Four gear ranges forward and reverse. Hydraulic power shift. Terramatic Drive transmission. Dual-control hydraulics. Toolbar-dozer combination available.

*Sea level (calculated) maximum horsepower (based on 60°F. and 29.92" Hg.). Manufacturer's rating.

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- ☐ 5-plow Case-o-matic Drive 800
- ☐ 4-plow Case-o-matic Drive 600
- ☐ 3+plow Case-o-matic Drive 400
- ☐ 3-plow Case 300
- ☐ 3-plow Case 300
- ☐ 3-4 plow Case 500
- ☐ 4-5 plow Case 700
- ☐ 6-plow Case 900
- ☐ 310 crawler (42 h.p.)
- ☐ 610 crawler (62 h.p.)
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Control Weeds *Before* Establishing Turf Areas

By RALPH W. WHITE, JR.
Assistant Horticulturist
Agricultural Extension Service

TEMPORARY soil sterilants can be used to kill weeds, weed seeds, nematodes, and fungi when establishing or renovating lawns or other turf areas.

Before applying a soil sterilant, certain soil preparations must be made. First, remove all rocks, branches, and other debris.

Next, cultivate the soil to a depth of six to eight inches. Be sure that all clods and unpulverized pieces of sod on heavy soils are broken up.

Keep the soil moist—but not soggy—for at least five days prior to application of the chemical. (This encourages weed seed germination and vegetative regrowth.

Four soil sterilants—methyl bromide, SMDC, DMTT, and calcium cyanamid—are available. Their characteristics and uses are described below.

Methyl bromide is the most effective sterilant. However it is highly poisonous and should be used *only* by experienced personnel.

A gas, methyl bromide should be applied—at the rate of one to two pounds per 100 square feet—under an air-tight cover to prevent the gas from escaping.

The cover should remain over the soil for 48 hours. The area should not be planted within two or three days after the cover has been removed.

Detailed directions concerning the use of this chemical are contained in a pamphlet which may be obtained from your local seed or fertilizer store.

SMDC is sold under the trade name of Vapam and VPM. It should be applied at the rate of one to one and one-half quarts per 100 square feet as a soil drench.

Only 100 square feet at a time should be treated if a sprinkler can is used:

Pour one to one and one-half quarts of the chemical in the sprinkling can; fill with water, stir, and apply uniformly over the measured 100 square foot area. Sprinkle the area immediately with enough additional water, thoroughly wetting the surface to seal in the material.

You can use a hose proportioner with a 1:15 ratio by applying the recommended rate of the material to 100 square feet of area. Immediately afterward, sprinkle the area with additional water to wet the surface thoroughly.

Sandy soils should be sprinkled lightly with water at intervals for a period of one to two days after applying the chemical. This is necessary to keep the surface moist enough to seal in the vapors.

Cultivate five to 10 days after applying SMDC, to allow the vapor to escape.

Depending on the type of soil, allow at least seven to 14 days between cultivating and planting. Clays and organic soils require the longer period.

DMTT is sold under the trade name of Mylone. Applied at the rate of ¾ pound of the 85% wettable powder or 1¼ pounds of 50% dust per 100 square feet, it will control the same pests as the above two materials when used as a soil drench or roto-tilled into the soil.

Either a sprinkling can or a sprayer can be used for applying DMTT as a soil drench:

For use in sprinkling can, place the recommended rate of mateial in the can. Then fill with water, stir, and apply to the area.

When a sprayer is used, be sure it has a large screen and nozzle. Mix the material with water and apply.

Mylone also can be mixed with sand to insure even distribution. It can be applied to the area by using a fertilizer spreader.

Irrigate the treated areas with one to one and one-half inches of water after applying the chemical. Wait at least three weeks before planting.

Fifteen pounds of Calcium cyanamid (granular form) can be used per 100 square feet to control weed seeds. Thoroughly cultivate 10 pounds of the material into the top three or four inches of soil.

Rake bed (to smooth the surface) and broadcast a second application immediately, using five pounds per 100 square feet. Work this into the top one or two inches of soil.

Water heavily after treatment if the soil is dry. Do not plant for at least 60 to 90 days after treatment.

Calcium cyanamid is *not* effective in controlling fungi, nematodes, bermudagrass, or nut grass.

No matter which sterilant you use, be sure to observe the following precautions:

Read the label carefully. It contains such information as active herbicidal ingredient, the amount of the active ingredient, directions for mixing and using, and the hazardous effect on humans and/or animals.

Follow directions of the manufacturer carefully when using herbicides on lawns and other turf areas.

Do not apply soil sterilants within three feet of growing plants or the drip line of trees and large shrubs.

Thoroughly clean application equipment after using.

Additional information concerning the use of temporary soil sterilants may be obtained from your county agricultural agent.

Summary of Herbicides Use

Herbicide	*Rate of Application per 100 sq. ft.*	*Remarks*
Methyl bromide	1 to 2 pounds	Air-tight cover for 48 hours is necessary. Highly poisonous. Planting may be made 72 hours after removal of cover.
SMDC	1 to 1½ quarts	See label for methods of applying. Wait 14 days before planting.
DMTT	¾ pound	If applied dry, thoroughly rototill into soil. Remarks same as for SMDC.
Calcium cyanamid	15 pounds	Not recommended if bermuda or nut grass is a problem. Work into soil, wait 60-90 days before planting.

TRIANGLE BRAND

Still Your Most Dependable Fungicide

The new organic fungicides that have received so much publicity in the past few years may be superior to some of the older standard sprays **for certain isolated applications.** But it is well to remember that many of these new "miracle" sprays have yet to stand the test of time.

We suggest that unless the superiority of a new fungicide is conclusively proved by exhaustive tests under severe climatic conditions, it would be wise to stick with the dependable fungicides.

Seventy years of experience have demonstrated to farmers, orchardists and agronomists that copper sulfate fungicides, if properly formulated and applied, are completely dependable, chemically effective under a wide variety of conditions . . . and last but not least . . . **economically practical!**

Triangle Brand Copper Sulfate & Basic Copper Sulfate are recommended for controlling the following diseases:

Bitter Rot — Scab — Blotch — Fruit Spot — Black Rot
Cloud & Phoma Fruit Spot of Apple — Anthracnose of Cantaloupe, Watermelon & Small Fruits — Bitter Rot, Black Rot & Downy Mildew of Grape
Boot, Tomato & Spinach Damp-off (Seed Treatment) — Lettuce Drop
. . . and many diseases attacking the foliage and fruit of citrus and nut trees.

Control POND SCUM and ALGAE in farm waters with Triangle Brand Copper Sulfate

FENCE POST treatment with Triangle Brand Copper Sulfate prevents decay and termite damage

Send today for information on these important uses of copper sulfate

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300 PARK AVE. NEW YORK 22, N.Y. • 5310 W. 66th STREET, CHICAGO 38, ILL.

Cooperatively Financed C Unique in Citrus I

UNIQUE IN THE ANNALS of Florida's citrus industry is a $3.3 million concentrate promotional program being instituted this month.

Pooling their interests—temporarily—to stage this promotion are the 22 companies which make Florida's concentrated orange juice and put it into retail-size containers.

The campaign will be conducted in September, October, and November. Basically, it will be a sampling program designed to induce more families to use frozen orange concentrate.

Bargain prices will serve as the primary inducement. Millions of coupons, worth several cents each on multiple purchases of the popular six-ounce cans of concentrate, will be distributed throughout the nation.

In addition, tempting prizes will be offered. These will probably include a grand award of $25,000 in cash and 100 all-expense trips to Florida.

Spearheading this campaign will be advertisements in national magazines, newspapers, and week-end supplements. These publications have a combined circulation of 81 million.

Funds for the promotion are being provided by the concentrate companies only. Each firm is chipping in on the basis of the number of gallons of concentrate which it has in its warehouses in retail-size (principally the familiar six-ounce unit) containers.

With the inception of this venture, many of the state's concentrators will be participating in three separate programs advertising Florida's frozen orange concentrate:

Many of them advertise their own brands, and will continue to do so during the next three months. And all of them, through the state tax levied to finance such campaigns, contribute to the advertising programs conducted by the Florida Citrus Commission.

Incidentally, to advertise *all* Florida citrus products — fresh, canned, and concentrated—the Citrus Commission annually spends approximately $3.7 million. The three-month concentrate promotion will cost around $3.3 million.

Between $1 million and $1.5 million will be spent for advertisements in various well-known publications. Full color page ads will be inserted in three top national circulated magazines and in several week-end supplements.

Moreover, ads will be placed in 165 newspapers in 148 markets throughout the country. Many of the newspaper ads will be in two colors.

Conducting the sales push is Benton and Bowles, New York agency which has handled the Citrus Commission advertising for the past five years.

Harry Warren, agency vice president and Florida representative, asserts the concentrators' program "adds an important new dimension to the selling effort behind Florida frozen orange juice." He points out:

"In contrast to the long-range program sponsored by the Florida Citrus Commission, which is more of an educational effort, this supplemental program will be based on strong promotional advertising aimed at wide sampling of this season's excellent pack of frozen juice.

"This special program is aimed at raising the total number of families using Florida frozen orange concentrate. Florida concentrators have unanimously entered into this sampling effort which will cover scores of brands distributed nationally.

"Latest figures show that only about 25% of American families buy Florida frozen orange concentrate in any 30-day period. It is clearly evident, from this, that there is ample opportunity to widen the base

What you should know about wind machines for proper frost protection

TROPIC BREEZE GROUND POWERED MODEL

TROPIC BREEZE ENGINE ON TOP MODEL
SINGLE OR DUAL POWERED UNITS AVAILABLE

TROPIC BREEZE ELECTRIC MODEL—
COMPLETELY AUTOMATIC

Don't Skimp on Horsepower

Six to eight horsepower per acre is a minimum requirement for safe frost protection. This figure has been substantiated by all published findings. Machines employing two fan blades must have engines that can deliver proper horsepower to each fan. For example, a wind machine with a single eighty horsepower engine and two fan blades can deliver no more than forty horsepower on each fan.

Large Diameter Fan Blades Are Important

The longer the fan blade the bigger the jet of warm air that is moved into the grove or orchard. Small propeller-type blades cannot move the volume of air longer blades are capable of. Turning at 590 rpm (recommended speed for best results) these longer blades produce 25% more air in the grove or orchard than the propeller type.

Buy Only a Proven Machine

There have been many wind machines built. Most types have come and gone. As a wind machine buyer, be skeptical of any machine that has not fully proven itself during a freeze. A wind machine that has not performed under severe freezes and in a number of different locations is a risky purchase.

Let Trained Personnel Help You

Terrain, wind drift, closeness of planting, and height of trees are all important factors to be studied before proper installations can be made. Qualified factory field engineers are available to study your groves and make recommendations. This service is made without charge or obligation.

Why the FMC TROPIC BREEZE Wind Machine for your grove or orchard?

1. *They are fast.*
Frost protection starts 3 to 5 minutes after machine is turned on.

2. *They are proven.*
Twenty years of manufacture, thousands of installations, plus conclusive documented results are behind every machine you buy.

3. *They cost less to operate.*
Running costs can be measured in a few cents per acre per hour of operation. And one man, not a crew, is all that is required to supervise entire operation.

Remember—Every major advance in wind machines for frost protection has come from the makers of Tropic Breeze Wind Machine.

Send for illustrated literature — now!

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

Putting Ideas to Work

Florida Division

General Sales Offices: Lakeland, Florida

Plants: Lakeland, Florida
Woodstock, Virginia

FOOD MACHINERY AND CHEMICAL CORPORATION, FLORIDA DIVISION
Fairway Avenue, Lakeland, Florida

☐ Please send me sales literature on Tropic Breeze Wind Machines.
☐ Please have Sales Engineer contact me,

Name_____ Title_____

Address (RFD)_____

City_____ Zone_____ State_____

Concentrate Promotion Industry Annals

of consumers through this sampling program."

A seven-man steering committee, named by the concentrators, is working with the advertising agency and the Florida Citrus Commission in planning the special promotion.

Growers stand to benefit materially from this promotion if it succeeds in increasing consumption of orange concentrate stock.

Frozen concentrate was not introduced to the public until the end of World War II. Yet this relatively new product has used substantially more than half the Florida orange crop for the past several years.

During the 1956-57 season, concentrators put up slightly more than 72 million gallons. Because of the severe freezes and the resultant loss of oranges, production fell to about 57 million gallons in 1957-58.

However, concentrators put up a record pack of more than 79 million gallons in the 1958-59 season. Substantially more than half of this has been sold.

Concentrators paid an average of just a shade under $3.50 a box delivered at their plants for oranges last season. This was by far the highest price in history.

It's an economic fact that the lower the carryover when the new season starts December 1st, the more valuable will be growers' oranges. This promotion, it is hoped, will make the carryover very low.

Since a plentiful supply of concentrate is on hand this season, as against the short situation existing a year ago, the wide sampling program is considered extremely well timed. It is the first time the Florida citrus industry has engaged in such a program.

While all concentrators participating in the promotion are members of the Florida Canners' Association, they are acting as an independent group in this case. Their ads will be signed "Producers of Frozen Orange Concentrate in Florida."

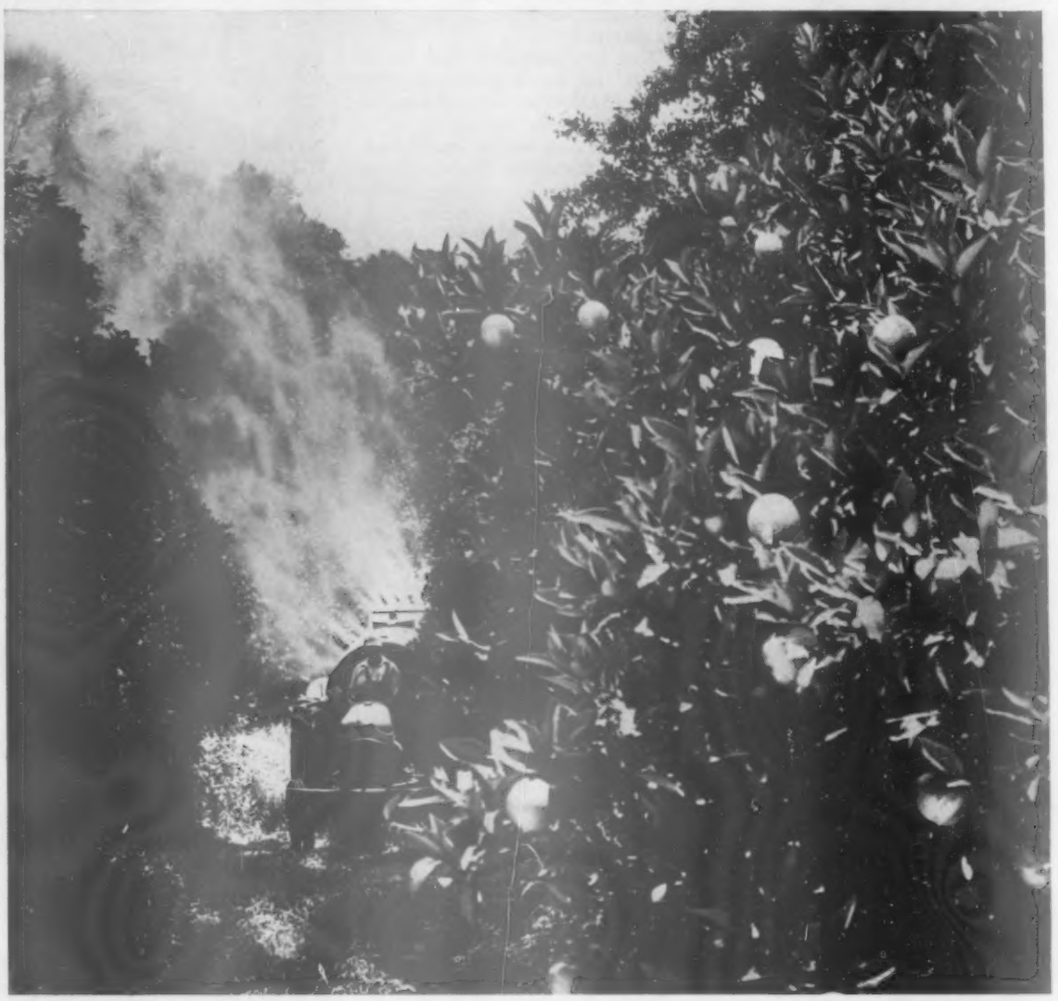
* * *

The only thing necessary for the triumph of evil is that good men do nothing.

* * *

You can save yourself a lot of trouble by not borrowing any.

FLORIDA POWER & LIGHT COMPANY • FLORIDA POWER & LIGHT COMPANY
FOR MORE WORK AT LESS WAGES
FARM BETTER ELECTRICALLY
Hire Reddy!
Electricity cuts time, helps you do more work easier and better...keeping costs down, profits UP!
Remember . . . 'Sunshine Service' Electricity is still the biggest bargain in your budget!
FLORIDA POWER & LIGHT COMPANY • FLORIDA POWER & LIGHT COMPANY



CONTROL ALL MAJOR CITRUS MITES WITH TRITHION®

No other miticide gives you the combination of advantages you get with TRITHION. It controls all citrus mites, even mite eggs; gives quick kill; and has long-lasting action. TRITHION can be used on bearing trees up to 14 days before harvest. It's available as a dust or spray. Ask your dealer for TRITHION, or write to Stauffer Chemical Company, Tampa, Florida, for further information.

Research, service and products of highest quality have made Stauffer one of America's largest specialists in farm chemicals. Look for and buy Stauffer brand INSECTICIDES, FUNGICIDES, WEED KILLERS, MITICIDES, SEED PROTECTANTS, FUMIGANTS, GROWTH REGULATORS, GRAIN PROTECTANTS, DEFOLIANTS.

Stauffer CHEMICALS SINCE 1885

®TRITHION is Stauffer Chemical Company's trade-mark (registered in principal countries) for O, O-diethyl S-p-chlorophenyl thiomethyl phosphorodithioate, an insecticide-miticide.

YARD & GARDEN

By MARGUERITE SCHWAEN

FALL'S A GOOD TIME to start a compost pile, that permanent symbol of gardening thrift.

Shrubbery and flowers will be vigorously strong and healthy if they're blessed with lots of organic matter to hold air, moisture, and plant food. Such soil also has the loose structure that's necessary to allow roots to develop naturally and easily.

Lots of us who struggle with sandy soil in our garden (or with clay soil in northern Florida and other states) can improve our ground with comparatively little effort. And at small cost too.

Yet, we're constantly throwing away the very materials that could be used to improve it. Grass clippings, leaves, and weeds—even vegetable parings and fruit peels from the kitchen—will break down and decompose into fine material for growing shrubs, flowers, and vegetables.

Location of a compost pile is equally simple. Any hidden spot (such as a corner behind hedging and away from the living area of your garden) will do.

To make compost, build up alternate layers of soil and organic waste material. First, put down a five or six-inch layer of clippings, parings, leaves, or other wastes.

Over this, spread a thin layer of manure to supply nitrogen (which is important because it hastens decomposition) or throw on a few handfuls of a high-nitrogen fertilizer like sulphate of ammonia. Next, add one or two inches of soil.

Continue to build up, to two or three feet, beginning and ending with soil.

Keep the sides of the compost pile vertical. This can be done with temporary wire fencing that can be moved away later. Keep the top of the pile level or slightly lower in the center, so it can catch and hold moisture. In dry seasons, sprinkle the pile to keep it moist.

Lime sprinkled onto the compost will keep down odors. It will also alkalize the materials.

Depending upon the raw materials you use, the compost you build this year will be ready for use next year, or possibly sooner. Gardeners who depend upon compost keep two piles, one to build on while the previous one is being used.

Turning and mixing a ripening pile helps the decomposition process and produces a mixture of better fineness. To do this, slice down through the layers with a spade. As you thus turn and mix a new pile, you'll be able to see how near your compost is to being usable.

If you live in an area where there are many palmettoes or native palms, you might be annoyed by rats around the compost pile. You can check this nuisance by sprinkling a warfarin product around the pile.

Developed by the government, warfarin is put out under several trade names. It is not poisonous. Moreover, it has the advantage of being lethal to rodents without harming people or pets.

* * *

Spray for Scale: Unless you're one of those really good gardeners who avoid trouble by spraying plants on a regular schedule, you're apt to have scale on some of your favorite ornamentals.

This pest isn't a matter of season, and it doesn't seem to be outlawed by cold weather. The only way to banish it is to use malathion.

Camellias, gardenias, and hollies are some of the garden favorites subject to scale attack. Marshal your forces and outflank the insects in time and you'll still have handsome bloom in season.

Scales lose legs and antennae with their first molt and appear as small objects which may be round or pear-shaped. They have a waxy covering that may be powdery, cotton, or in a solid cover.

Usually, scale are from one-eighth to one-sixteenth of an inch in diameter. They feed by inserting a tiny thread-like beak into the plants and sucking out the juices.

To outwit scale: Put two to three teaspoons of 50% liquid malathion in a gallon of water and spray the foliage thoroughly. Repeat in about two to three weeks. If your problem is serious, you may need a third application.

Adding an oil of emulsion product to the malathion mixture is the most effective strategy of all. Add the amount of oil to water specified, as if you were using the oil by itself.

Not only does the oil serve as a good medium; it also cleans the foliage, causing the scale to drop off more rapidly. This is most important since plants breathe through their leaves and foliage encrusted with scale or sooty with mold from white fly are literally starved.

You can avoid damage from oil spray by following this rule:

In hot weather, spray only in the late afternoon or early evening when heat has gone from the sun. By morning, a sheen will be left on the plant but the oil itself will have evaporated and there will be no sun burn damage.

As winter nears, spray only when there is no danger of the temperature dropping to 40° or below. Cold temperatures burn foliage if it's covered with oil.

Living in Florida

By BARBARA CLENDINEN

THE OLD WHITE WALLS of Spanish castles were brilliant with crimson roses when we toured Franco's country two years ago. And the Christopher Wren facade of the inn at Windsor, England, was almost hidden beneath a patterned blend of ivy and roses.

This trick of "espaliering" appears everywhere in European gardens. ("Espalier" is a French word meaning trellis and it is used to indicate the training of ornamental shrubs or trees against a wall or fence.)

Europe, however, has no monopoly on this art. Some of the most charming patios and gardens in the Tampa area have been accented by espaliering:

Spring at the Currie Witt home on tree-lined Villa Rosa brings a frosting of white to the fountain wall of the patio. A Confederate jasmine, trained on either side of the stone sea sprites of the fountain, bursts into bloom in late April, flinging a lavish lace scarf over the wall.

Calamondin has been trained in a pattern on the bedroom wing of the David Falk home on Bayshore Boulevard. Its bright green foliage is handsome the year around. But when the spectacular balls of fruit festoon the wall in spring, it's a traffic-stopping sight.

Pyracantha is probably the most popular shrub for this training process. Its natural formation adapts well to grooming into a lacy pattern on a wall, also its leaf and bloom are wonderfully effective.

"Espaliering is easy," says Mrs. H. S. Hampton. A member of Tampa's Azalea garden circle, she is famous for having one of the greenest thumbs on the west coast of Florida.

Mrs. Hampton was one of the first home gardeners to try this trellising. And her original experiment with a pryacantha against whitewashed brick was completely successful.

To achieve this effect, plant the tree or shrub within a foot of the wall. As the new growth develops, prune out the wood which grows *away* from the wall.

Warning: It's important to prune *new* growth rather than time the pruning after the blooming period. What you want to do is to guide the plant into a certain pattern of growth; therefore it's the new tendrils and shoots which must be eliminated or encouraged.

You can develop either a formal, stylized branching system or an informal, assymetrical one.

Decide in which directions you want your shrub to go. Then coax it

THIS IXORA IS BEING TRAINED by Wilbur Davis Jr. to grow vine-like up the outside chimney of his Tampa home.

along, fastening the main limbs to the walls by tapes held by nails or by screw eyes inserted into the mortar joints or woodwork.

After the shrub is well established and thoroughly convinced that it is to be an espaliered plant, little tying up is needed if regular pruning is done.

Select a plant that has a suitable branching system for training. Loquat and magnolia are both excellent. Sasanqua, flowering quince, crabapple, yaupon holly, and pear are other plants suited for training flat against a wall or fence.

Vines such as English ivy and jasmine are beautiful. However they take heavy pruning because of their tendency to lush growth.

Espaliered plants take up less room and provide a real conversation note in a small garden when limited space would otherwise confine points of interest. They're marvelous, too, for the areas of old brick set into so many new home fronts.

Here's a bedroom study ideal for a bachelor or for the family with a trend toward the unique. A striking safari-print in reddish-orange, blue and white cotton covers the modern couch and curtains the window from ceiling to floor. Tufted cotton carpeting in blue and white repeats the color scheme. White accents and a black lacquer chest stand out against a charcoal wall.

Diet Kitchen

Dozens of dishes – ranging from a plain lettuce and tomato sandwich to a frozen or a seafood salad – simply demand mayonnaise. Consequently one of the greatest deprivations of the low-fat diet is the frown on mayonnaise.

But here's a way to respect that diet and *still* have mayonnaise. Note that the egg yolk (the culprit in low-cholesterol diets) is replaced by egg white.

Dieter's Mayonnaise

½ teaspoon sugar
½ teaspoon dry mustard
¼ teaspoon salt
4½ teaspoons vinegar
pinch of red pepper
1 egg white
1 cup corn or vegetable oil

Combine sugar, mustard, salt, and pepper in bowl. Add egg white, beat well. Continue beating and add ½ cup oil, a little at a time. Add 2 tablespoons vinegar, continue beating, slowly adding the remaining oil Beat in remaining vinegar. Makes about 1¼ cups.

Food Facts .... and Fallacies

By LORA A. KISER

Food fallacies are so widespread that it's hard to tell fact from fiction. And women dieters (that takes in just about everybody, doesn't it?) share most of the misconceptions.

To straighten matters out, here are some fallacies and facts, authorized by Alice L. Cromartie, state nutritionist.

Many people think flours that are enriched in milling are harmful and that only stone-ground flour is good. *This is fallacy.* The Food and Drug Administration says that the enrichment of bread improves its nutritional qualities and these are beneficial. *This is a fact.*

Many people think that honey contains no calories because it is a "natural sweet." *This is a fallacy.* Honey contains 62 calories per tablespoon, compared to 50 calories per tablespoon for granulated and brown sugars and syrups. *This is a fact.*

So called "diet breads" contain less calories than regular breads. *This is a fallacy.* Diet breads are sliced thinner than regular breads. Thus one slice contains about 15 calories less than a regular slice of bread. On a weight-for-weight basis, they have the same calorie value. *This is a fact.*

Milk is considered fattening by many people. *This is a fallacy.* Milk is really low in calories for the amount of food value it contains. An eight ounce glass of whole milk has about 170 calories. Skim milk has about 80 calories, as much protein as an egg, plus needed calcium and iron. It also contains riboflavin—the look-younger-longer nutrient. Adults need 2 glasses a day. *This is a fact.*

Toasting bread makes it nonfattening. *This is indeed a fallacy.* Toasting merely removes moisture, which contains no calories, leaving them all in the bread. *This is a fact.*

Many people believe that papaya is an aid to digestion. *This is a fallacy.* It's true that meat tenderizers are made from papain, the protein-splitting substance which comes from leaves, stems and peel of the papaya. The edible fruit itself is mild-flavored, low in acidity and easily digested. It contains large amounts of vitamins A and C and can be tolerated usually by people who cannot eat citrus. *This is a fact.*

So there you are—six common food fallacies straightened out. Check with your home demonstration agent or a nutritionist whenever you're in doubt about other food values.

SIMPLE YET SAVORY is this outdoor supper which features lima bean and hot dog casseroles, stuffed tomatoes, and French bread.

AMERICA'S FAVORITE—"Pie and a cup of coffee."

BEST RECIPE of THE MONTH

INTRIGUING INGREDIENTS were the determining factor in the selection of two of this month's contest winners. Moreover, there were so many marvelous entries that two—instead of one—honorable mention recipes were chosen.

A golden chiffon pie, cloud-like, fluffy and richly flavored, was named top winner. It introduces an old familiar as a bright new ingredient in pastry.

Our check for $5 goes to Mrs. Kenneth F. Brown of Bradenton for her unusual:

Peanut Butter Chiffon Pie

1 envelope plain gelatin
1 cup cold water
3 egg yolks, well beaten
½ cup light corn syrup
½ teaspoon salt
½ cup peanut butter
3 egg whites, unbeaten
1 baked 9-inch pie crust

Dissolve gelatin in ½ cup cold water. Beat yolks and add other ½ cup cold water. Add syrup and salt.

Combine with gelatin mixture in top of double boiler. Cook, beating, until mixture (which will be very light and foamy) thickens slightly. Do not over-cook. Set aside until slightly cool.

Add egg whites in two parts and beat hard. Add peanut butter and vanilla. When well mixed, pour into pie crust and refrigerate until set.

* * *

A very special party pie, creamily smooth with chocolate and sprinkled with black walnuts, won second prize for Mrs. W. A. Sears of Hutchins, Texas. She calls it:

French Silk Pie

1 stick (½ cup) butter
¼ cup sugar
1 square chocolate, melted
1 teaspoon vanilla
2 eggs
1 baked pastry shell
1 cup heavy cream, whipped and flavored
black walnuts, chopped for garnish

Cream butter until fluffy. Add sugar, melted chocolate, and vanilla; continue to beat until light and creamy. Add eggs, one at a time, beating 3 minutes after each addition.

Pour mixture into cool, baked pie shell. Top with sweetened whipped cream and sprinkle with the nuts. Chill 3 hours before serving.

Note: Pecans, English walnuts or toasted almonds may be used instead of black walnuts.

* * *

A "mystery" ingredient helped Mrs. Samuel C. Garrard of Homestead win one of the two honorable mention awards. Under a snowy meringue is a luscious custard filling made of (surprise!) squash. The effect is like pumpkin, but delicious on its own.

Squash Pie

1 cup sugar
¼ teaspoon salt
2 eggs, separated
1 cup strained or mashed squash
1 cup milk
2 tablespoons butter or margarine, melted
1 unbaked 9-inch pie shell

Beat eggs until light and fluffy. Mix in squash. Add sugar and salt, mixing well. Gradually stir in milk and butter; mix until well blended. Pour into unbaked pie shell.

Bake at 375 degrees 45 to 55 minutes. Top with meringue made of egg whites and 4 tablespoons sugar; brown 5 minutes at same heat. Let cool and serve.

* * *

A lemon chiffon pie that goes together magically and tastes marvelous won the second honorable mention award. It was sent in by Mrs. Henry Hale of Cedar Key.

Challenge Lemon Pie

1 lemon
1/16 teaspoon salt
3 eggs
3 tablespoons hot water
1 cup sugar
1 baked 9-inch pie shell

Beat yolks of 3 eggs very light; add juice and grated rind of lemon, 3 tablespoons hot water, ½ cup of the sugar, and salt. Cook in top of double boiler over hot water until thick.

Beat egg whites until stiff. Add the remaining ½ cup of sugar gradually, beating all the while. Fold into cooked mixture.

Pour into pie shell. Place in hot oven, 450 degrees, 5 minutes or unitl brown. Let cool away from drafts.

Bless That Recipe!

Everyone who has cooked for more than a week has a "life saver" recipe for problem situations. It might be a quick dessert. Or a hot sandwich for unexpected Sunday night guests. Or a dip that can be conjured up in minutes when friends drop in.

It could be a special seasoning for French bread that gilds a plain supper into party fare. Or an egg dish (like a really good omelet or strata) that stands in good stead when pickin's otherwise would be poor.

Tell us about the dish you thank your stars for—and tell us in time for our November issue. Send your entry by September 28 to:

Best Recipes
FLORIDA GROWER & RANCHER
Box 2350
Tampa, Florida

First prize is $5; second prize, $2. Honorable mention wins a 3-year subscription for yourself or a friend.

Plentiful Foods for September

Pork will head the plentiful foods list for September, according to the Food Distribution Division of the USDA's Agricultural Marketing Service.

Other items on the September plentiful foods list will include milk, pears, grapes, lemons and limes, late summer vegetables, and peanut butter.

SHORT CUTS

($1 will be paid for every Short Cut published.)

From an interested reader who noticed our bid for pie recipes this tip: when your apple pie is almost ready for the oven, just before you put on the top crust, spread thinly sliced or grated sharp cheese over the apples. It gives a wonderful tangy taste. *J.J., Greensboro, N. C.*

* * *

When storing small articles of clothing, place them in a small brown paper sack and fold over once, then stitch on the sewing machine. This makes a nice tight container and keeps out moths and other insects. *Mrs. E.R.L., Boynton Beach, Fla.*

* * *

Put a fitted mattress cover onto a coil bedspring to keep out the dust and to give the appearance of a box spring. *L.L., Miami, Fla.*

* * *

To add a piquant, new flavor to French fried potatoes, drop a cut garlic clove in the hot fat. *Mrs. R.S., Lithia, Fla.*

SEWING CORNER

Smart 'n' Slim

9296 SIZES 10–18

Ideal for work, school, or weekends, this trim tailored frock has no waist seams; you just cinch it to fit. The stand-up collar and pocket trim add a fresh, casual touch.

Choose cotton, linen, or jersey. Make it without sleeves for September and October wear; tailor it with a cuffed sleeve for use through the winter.

Printed Pattern 9296: Misses sizes 10, 12, 14, 16, 18. Size 16 takes 3¼ yards 35-inch fabric.

Send 50 cents in coin for this pattern; add 10 cents for each first class mailing. Send to:

Pattern Dept.
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P. O. Box 42
Old Chelsea Station
New York 11, N. Y.

Print plainly name, address with zone, size, and style number.

Your Bible

can be rebound in handsome leather or fabrikoid. We have complete facilities and specialize in repairing and rebinding Bibles. Write for illustrated brochure with price list.

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REAL SPANISH DINNERS
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7th AVE. at 36th STREET
JOE VALDEZ Phone 4-2791
TAMPA, FLORIDA

Cracked, Flaked Corn Increase Beef Calf Gains

BEEF CALVES creep-fed cracked or flaked corn gain better than calves fed pelleted corn.

At least, this was found to be true in two Florida Agricultural Experiment Station tests. Dr. J. F. Hentges Jr., associate animal husbandman, reports:

Pelleted corn and cracked corn were compared in a 1957 experiment. Two lots of calves were used in this research.

Calves in Lot 1 were offered a feed mixture of 80% pelleted corn and 20% non-pelleted supplement. Lot 2 calves received the same mixture, but their corn was cracked.

In addition to the pangolagrass and bermudagrass pastures being grazed by their dams, Alyce clover hay was available to the calves free choice.

Results of this test showed that: There was little difference in feed utilization. Also, the feed cost per 100 pounds of gain was about the same for calves in both lots.

Larger gains were obtained in the cracked corn lot. This was believed to be due to a 1.5 pound per day larger average daily consumption of concentrate.

Dr. Hentges points out that the lower consumption of the pelleted corn may have been due to the easier separation of pelleted corn and non-pelleted supplement in the ration of Lot 1. He adds:

Moreover, the calves ate cracked corn more readily than pelleted corn at the beginning of the experiment.

Relative merits of pelleted feed and flaked corn was investigated in an experiment conducted in 1958.

In this experiment, a pelleted feed mixture of 70% yellow corn meal and 30% supplement was compared with a steam, rolled (flaked) corn and supplement mixture. The pellets were three-eighths of an inch in diameter.

The calves fed flaked corn in this experiment gained faster. Also, they required less feed per 100 pounds of gain.

Furthermore, reveals Dr. Hentges, the calves fed flaked corn graded higher on slaughter grade at the end of the experiment and returned $10 per head more than the calves in the other lot.

* * *

Plastic Mulch

Strawberry farmers in Orange County, California are using a polyethylene mulch in their fields to insure early profit-building crops. And they are getting almost double the early yield from planting to first harvest.

They are obtaining these results by spreading a newly-developed transparent waterproof film over the soil as protective covering. When exposed to the sun, this clear film raises the ground temperature far above normal and stimulates the growth of the strawberries.

A FIELD WORKER pulls a strawberry plant through a slit in the polyethylene mulch which covers a three-acre California farm.

An opaque or "black" film, which cuts considerably the growth of weeds, is also available. But it is not believed to be as significant as the transparent film in promoting early growth.

Gulf Life
ADAPT·A PLAN
Fits your changing needs

The Retirement Plan you buy for tomorrow can help meet today's needs—thanks to the exclusive Adapt-A-Plan. Ask your Gulf Life representative.

Gulf Life
INSURANCE COMPANY

Charolaise Cattle, A. F. Crow Ranch, Haines City, Fla.

Improve Your Pastures for Lower Cost Beef Gains

Fertilizing pastures with Phillips *66* Ammonium Nitrate—applying it straight or, if your soil requires it, mixed with phosphate and potash—will provide more grazing on higher protein forage at lower cost. Phillips *66* Ammonium Nitrate is preferred for pastures since it provides both *nitrate* nitrogen for a quick start and *ammonia* nitrogen for sustained feeding. Then, too, it gives you twice as much nitrogen (33.5%) as 16% materials—at less cost per pound.

For a complete fertilizer that will improve forage and reduce feed costs, see your local fertilizer manufacturer. And if you need straight nitrogen, specify Phillips *66* Ammonium Nitrate (33.5%) or, if sulfur is needed, Phillips *66* Ammonium Sulfate (21% N and 23.8% sulfur).

Free Flowing For Even Feeding

Ever grab a handful of Phillips *66* Ammonium Nitrate and examine it? When you do, you'll see why it's so popular with Florida growers and fertilizer manufacturers. Its prills, made by an exclusive electronically controlled process, are all uniformly hard and round. In mixed fertilizers, Phillips *66* nitrate prills remain uniformly dispersed. The result is a free flowing fertilizer with even distribution of plant foods — a fertilizer that is easier to apply and gives more even feeding.

When Phillips *66* Ammonium Nitrate is applied straight, it's guaranteed to flow freely when stored in a normal manner, or it will be replaced at no cost to you.

PHILLIPS PETROLEUM COMPANY
Sales Office: Tampa, Fla., 3737 Neptune St.

PHILLIPS 66

FLORIDA FARM MARKET PAGE

The rate for classified advertising on this page is 15 cents per word, per issue, cash with order

TREES – NURSERY STOCK

FALL DELIVERY—Registered first generation Hamlin and Valencia; non-registered disease-free Hamlin, Pineapple and Valencia on lemon. Spring delivery—Hamlin and Satsuma on sweet; Dancy on lemon. Available for contract, October '59 budding: Sweet, sour, cleo and lemon stock with disease-free budwood of bearing nucellar seedlings of Satsuma, Orlando tangelo, Thornton tangelo and Dancy tangerine; registered budwood sources of Hamlin, Pineapple and Valencia. Certified free of burrowing nematode. WEST VOLUSIA NURSERIES, Route 2, Box 518, DeLand, Florida. Ph. RE 4-1315.

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Be Sure—get the best rootstock for your grove. We have found, from experience, Cleopatra to be more resistant to cold; diseases; wetness; adaptable to a wide variety of soils, and produces a high quality of fruit. We have all varieties for immediate, Fall and Spring planting. Place your order now. MAY BROTHERS, EL 7-3454, Box 805, Umatilla, Fla.

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BUDDING YOUR VARIETY OF CITRUS NOW on contract for Spring and Summer 1960 delivery; REGISTERED or non-registered; certified nematode-free; on lemon, sweet, Cleopatra and sour stocks. GRAND ISLAND NURSERIES, Box 906, Eustis, Florida.

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Make money raising Guinea pigs, Rabbits, Mink or Chinchillas for us. Write for free information. KEENEY BROTHERS, New Freedom, Pa.

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PROTECT YOUR BERRY CROPS. Cheese cloth, 100 yards by 48", convenient 10-yard lengths, $7.50 prepaid; 50% less mill price. JOSEPH HEIN, Box 356E, Thornwood, N. Y.

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FARMERS' 'BREAK'

Farmers should "take a break" in the morning and afternoon, the same as city workers do.

Such "breaks" are important for two reasons: They reduce the possibility of accidental injuries and deaths, and they improve working efficiency.

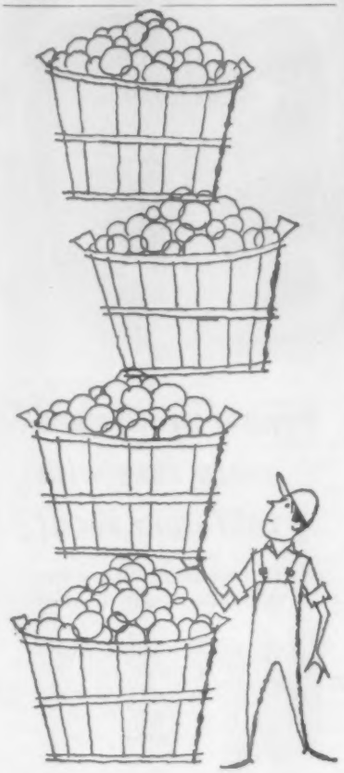
The highest percentage of farm work accidents occurs during the late morning and mid-afternoon hours. So if you're drving a tractor, it's best to stop and walk around a little bit.

Farm wives can help by taking a mid-morning and mid-afternoon snack to the field, to be sure that their husbands take a few minutes off from the routine of field work.

New Tractor Tire

A new farm tractor tire with radial cord-ply design produced greater traction and power efficiency than the conventional tractor tire in recent USDA tests. The layers of fabric (cord) in the new tire are destrained by a stiff hoop of fabric under the tread.

Irvin F. Reed of the Agricultural Research Service reports that the radial-ply tire had a tractor drawbar pull superiority of 33% on concrete, 23% in loam, 21% in clay, and 8% in sand.



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Shielded D-Series Tractors and companion equipment

You'll like the way the streamlined, low-set, Allis-Chamers D-14 or D-17 Tractors slide in and under low-hanging branches without damage to trees or fruit . . . the way these grove-fitted tractors deliver power so gently but firmly to companion equipment.

What's more, you stay safe and comfortable *in the seat*, fully protected behind a driver's shield. Right- or left-hand shielding units alone are also available, if desired.

The new Allis-Chalmers 300-series offset grove harrow is available in 10- or 14-foot widths . . . cuts down on the number of passes needed for clean discing tree to tree. Sharp-cutting bissel blades cover trash without damage to tree roots.

The full-swinging swivel action of the TRACTION BOOSTER drawbar permits sharp turning around trees at the ends . . . while delivering all the fuel-saving advantages of the TRACTION BOOSTER system. Go up to 25% further on the same amount of fuel.

Ask your dealer now for a demonstration of the D-14 or D-17, specially fitted for the groves.

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Rainbow Premium Plant Food can help you reach this goal!

Research results report that with the right combination of pasture grasses and high fertility, it is possible to produce 1,000 lbs. of beef per acre in a single pasture season.

Rainbow will help *you* hit the 1000 lb. goal. Designed for Florida conditions, Rainbow contains all the nutrients needed for all-season carrying capacity on your pastures.

Rainbow supplies 3 kinds of nitrogen to bring pasture into early production and sustain the yields of high protein forage all season. The right kind of phosphate, potash, calcium, sulphur and magnesium, plus International's exclusive ingredient MEM, insures sturdy, disease-resistant pastures that furnish cattle the natural minerals they need for top production.

This year, fertilize your pasture with Rainbow Premium Plant Food. Contact your local Rainbow representative for full details.

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Soil Conservation Stamp

Progress in soil conservation in the United States was saluted in a four-cent postage stamp issued August 26. It was the nation's first soil conservation stamp.

The stamp was developed in cooperation with the U. S. Department of Agriculture. It portrays a modern farmland setting, signifying that conservation farming brings beauty as well as bounty to rural living.

Pepper profits are more sure with California seed!

says Leigh Abernethy, Manager, Quality Control

"That's because California's rain-free summer climate produces unusually disease-free peppers, like our popular mosaic resistant Yolo Wonder," says Leigh Abernethy, Quality Control Manager for the Clarence Brown Co. "And when you select pepper seed that's also been intensively selected for vigor, uniformity and yield of top market fruits, you're pretty sure to end up with the most profitable crop you've ever grown! Ask your supplier for Clarence Brown pepper seed . . . sold under the bright blue SRS label."

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SALES OFFICES: SRS, Modesto, Calif., U.S.A.

WRITE FOR NAME OF NEAREST SUPPLIER

SRS

Letters to the Editor

Dear Sir:

Your "Open Letter to *Life, Time* and Publisher *Luce*" (editorial in the August 1959 issue of FLORIDA GROWER AND RANCHER was very good! I could only wish it had been somewhat stronger.

Ed Pahl
Seffner, Florida

P.S. Your magazine, for the price, is one of the best in Florida.

* * *

Dear Editor:

I feel sorry that the FLORIDA GROWER AND RANCHER, an otherwise fine farm magazine, has taken up with controversial politics.

Your August editorial deals with the segregation-integration question as if *Time* and *Life* magazines have no right to criticize at all. It is good that this criticism comes from inside our great republic and not out of Soviet Russia or awakening, nationalistic Africa.

Time and *Life* have never shown a radical point of view ("mix white and black and stir gently") such as you accuse them. Rather, both magazines have expressed a great amount of satisfaction whenever a token integration of a few, often less than half a dozen pupils, has been accomplished.

A magazine like yours should not defend the powers of darkness with some bible-clutching bigotry. (You have tried to support the argumentations you have displayed with the name of God.) Segregation *cannot* be supported by the teachings of Jesus and His disciples:

"*And hath made of one blood all nations of men . . .* " (Acts 17:26) is also in accord with modern science.

Heinrich Perlich
Cassia, Florida

* * *

Gentlemen:

It is with deep feelings that I want to congratulate you regards your editorial—page 32, August issue, FLORIDA GROWER AND RANCHER—entitled "On Open Letter to *Life, Time*, and Publisher *Luce*."

By birth I am a "Yankee," but thank God I'm open to conviction. And that conviction, in this case, is that you are 100% right.

Your editorial is a masterpiece. I am clipping it to *file* and *keep*. I wish every American could read it.

My deep personal regards to you all in the office of FLORIDA GROWER AND RANCHER.

Jay F. Hammond
Romulus, N. Y.

* * *

Dear Sir:

I wish to commend you for your forthright editorial in re the *Life* and *Time* attitude towards the South. I was begininng to think that no one saw the actions of the Luce family in the same light I do; I appreciate your understandable editorial very much, and I hope every one of your subscribers read it carefully.

May I have your permission to copy this fine piece of journalism—giving you credit for authorship—in order that I may mail several of my friends a copy of each? Or, better still: Why don't you run off a few copies for sale to those of your subscribers who might desire to get them?

Again, thanks.

S. E. Sapp
Newberry, Florida

* * *

Dear Editor:

I did a double-take when I read the comment by C. H. Harris in your August 1959 issue's "Letters to the Editor" (Brand Advertising).

I have employed every means to bring this most important and vital factor of "BRAND IDENTIFICATION" to the attention of the citrus industry . . . since January 1956. At that time, I sent the Florida Citrus Commission my suggested symbol (including the art work) and expressed my deep interest and comments regarding this matter.

But, as you can see, our citrus is still not identified.

The need for identification of the Florida orange was further proved last August (1958) when a baton twirler, a Miss Gehm, from Florida was tossing out oranges supposedly from Florida and they turned out to be California fruit. (*Miami Herald*, August 28, 1958)

Florida is really "missing the

boat" by not identifying our lne citrus.

I am enclosing, for your study, my suggested symbol—"Florida sitting on an orange." As is evident on the enclosed artwork, the geographical shape of Florida serves as the green leaf on the citrus.

I am sure you will agree that the insignia is a true and appropriate symbol to identify our citrus. When one sees this symbol (on an orange, he knows it is a *Florida* orange—and each orange sold becomes that much more advertising for Florida.

Paul D. Halpern
Miami, Florida

* * *

Gentlemen:

In the June 1959 issue of FLORIDA GROWER AND RANCHER there was an article concerning "Salting Peanuts in the Shell for Roasting."

Please advise where I can obtain more details of the process, and possibly a sketch of a small plant for this purpose.

John N. Trotman
Lake City, Florida

(Mr. Trotman has been advised to contact the researchers who developed the process for salting peanuts in the shell: S. R. Cecil and J. G. Woodroof of the Georgia Experiment Station at Experiment, Georgia.)

Institute Program for Florida Citrus Nurserymen

FLORIDA CITRUS nurserymen will hold their first institute Thursday, September 24, in the Florida Citrus Building (Mayo Hall), Winter Haven.

The all-day session will begin at 9 A.M. R. G. Pittman Jr. of Apopka, Florida Citrus Nurserymen's Association president, will welcome the institute participants.

Presiding over the program will be William C. Cooper, principal horticulturist, U. S. Department of Agriculture, Crops Research Station, Orlando.

Institute topics and speakers will include the following:

"**Basic Research** and Its Relation to the Florida Citrus Industry"—Marion Parker, Director of Research, U. S. Department of Agriculture, Washington, D. C.

"The Importance of Nursery Stock from the Standpoint of the Production Manager"—J. T. Griffiths, production manager, Snively Groves, Winter Haven.

"What Is the Ideal Citrus Nursery Tree for Florida?"—Gerald G. Norman, supervising inspector, State Plant Board of Florida Citrus Budwood Registration Program.

"California Nursery Practices"—Albert Newcomb, W & N Ranch, Thermal, California.

"**Disease Problems** with the Murcott"—W. Conway Price, virologist, Lake Alfred Citrus Experiment Station.

"Nursery Equipment and Techniques"—George Nordmann, West Volusia Nursery, DeLand.

"California Stock Foundation Programs for Citrus"—L. G. Weathers, pathologist, University of California, Riverside.

"Looking Ahead in the Nursery Business"—Fred P. Lawrence, citriculturist, Florida Agricultural Extension Service.

THUMMER GREEN — —

— — — *SHARMAN*

MY SAKES!
EMERY GOES HOME TODAY... GOTTA CATCH THE TRAIN!
...AND GET HIS TOOTHBRUSH! DON'T FORGET HIS CHICKEN FEATHERS! GRAB HIS B-B GUN! GET THOSE COOKIES ON THE TABLE! HIS YO-YO... HIS RANGER RING... HURRY THUMMER! THERE...THIS SUITCASE'S READY! C'MON!
HEY!

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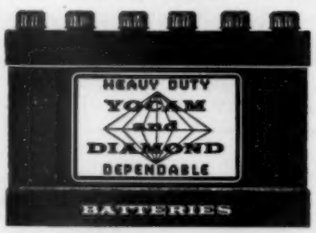

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Herbicides Up Onion, Sweet Corn Yields

Weeds commonly infesting onions and sweet corn have recently acquired two powerful herbicide enemies as a result of USDA research.

CDEC (2-chloroallyl diethyldithiocarbamate) as a pre-emergence herbicide effectively controlled weeds in onions with no crop damage, weed-control studies at Weslaco, Texas, showed.

Applying three pounds of CDEC in 40 gallons of water per acre controlled pigweed and watergrass in onions. Six pounds of CDEC in 40 gallons of water controlled weeds but decreased the stand of onions.

Simazin, applied on sweet corn as pre-emergence treatment at the USDA's Agricultural Research Center in Beltsville, Maryland, also proved effective.

The pre-emergence spray controlled annual grasses and broadleaved weeds in sweet corn without affecting the corn's yield, quality, palatability, or maturity date.

Best results, according to the researchers, were obtained from a four-pound application of Simazin. However, a lower spray concentration was effective and practical with limited cultivation.

Overhead irrigation proved more effective than furrow irrigation for weed control in the ARS-Texas Agricultural Experiment Station studies. Several pre-emergence herbicides were used in this research.

Downward movement of herbicides increased with overhead irrigation, the scientists reported. Furrow irrigation tended to leave the chemicals on soil surface away from germinating weed seeds.

Studies using four pounds of either CDEC or EPTC (ethyl N,N-di-*n*-propylthiolcarbamate) to 40 gallons of water showed 97% weed control with overhead irrigation. With furrow irrigation, they showed 61% control.

When the amounts of the herbicide applications were increased, weed-control percentages with furrow irrigation approached those with overhead irrigation.

However, warned the researchers, heavy applications of weed killers increase production cost and may endanger crops.

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Florida Egg Industry Faces Stiffer Competition

By THOMAS J. HUGHES

"Compared to the competition that will be facing them within the next five years, poultrymen haven't seen anything yet . . ."

". . . Poultrymen will eventually have to sell eggs at the national average instead of the premium prices they are presently enjoying. And anyone not able to produce eggs at 25 cents a dozen, or less, will be in serious trouble. . . ."

The above warnings are excerpts from only two of the many thought-provoking speeches made during the recent 18th annual Florida Poultry Institute. "Good Management Helps Meet Competition" was the institute theme.

Other pertinent phases of egg production discussed during the four-day gathering at Camp McQuarrie included farm mechanization, adequate records, contract egg farming, poultry health and nutrition, and combatting diseases.

Florida poultry producers, who are just now recovering from one of the worst egg price situations in over 20 years, listened quietly as Extension economist Ralph Eastwood forecast the future of their egg industry.

Eventually, predicted Dr. Eastwood, Florida poultrymen will become part of an export area. He added:

When that happens, they will have to produce eggs at prices to meet those of other areas. The local egg margin over the national price will get smaller and smaller.

Presently, per-capita egg consumption is above that of the prewar years. Despite this fact, per-capita consumption is on a downward trend.

This trend began in the 1940's, and is still continuing. It is unlikely, the economist asserted, that consumption per person will increase appreciably.

Within the near future, there will be new egg marketing agencies. Only time will tell, Dr. Eastwood commented, if farm cooperatives are workable or if private organizations will handle egg sales.

"Automation on the Poultry Farm" was discussed—appropriately enough—by a young mechanical genius. He was Roger Williams of Gainesville whose operation is completely mechanized.

Williams told his fellow poultrymen that he is able to produce eggs at a feed cost of less than 20 cents per dozen. He then detailed how he accomplishes this.

For one thing, Williams built his own push-button feed mill for less than $10,000. It takes him less than 10 minutes per day to feed his 8,000 layers. Next year he will have 25,000 birds producing eggs.

The recent college graduate has incorporated many unorthodox practices — heretofore not recommended in modern poultry circles— into his Alachua County operation. And many of them have proved profitable for him.

Each bird on his farm is allotted only one and one-half square feet of floor space. The close spacing requires more feeder space and an outside water system.

POULTRY INSTITUTE SPEAKERS Roger Williams, Gainesville poultryman (left), Extension economist Ralph Eastwood (center), and USDA marketing statistician Edward Karpoff (right) were photographed as they informally discussed egg prices.

Williams uses a long gutter outside the pens. Every second or third day, he cuts the water off for a couple of hours—so the birds themselves will clean the gutters.

No roosts are used on the Williams farm. He reports this practice has three advantages:

There is less moisture from droppings. Houses can be cleaned easier. And there is more flexibility in arranging the automatic feeder tracks.

Contract egg farming offers very little to the producer who has both experience and capital, declared Edward Karpoff, economic statistician with the USDA's Agricultural Marketing Service. He pointed out:

Because the broiler industry has become so involved, only contractor farmers dare go into it. The margin of profit is so low that it is impossible for growers to buy feed at a retail price and make a profit.

Understandably enough, Karpoff continued, contractors look out for their own best interest. For this reason, he advised egg producers to do three things before signing any agreement:

Read the fine print well and understand it thoroughly; make sure all provisions are clearly spelled out.

Know your feed-egg ratio and your production records; be able to determine what percent of your eggs will meet the contract requirements.

Determine if the contractor is financially stable; make sure he will remain in business long enough to pay off any extra indebtedness incurred.

After citing pitfalls which producers should watch, Karpoff defended certain phases of contract farming by saying some egg agreements have worked very satisfactorily.

Persons usually attracted to contract farming, continued the statistician, are those without sufficient capital or experience—or both—to carry on a sound operation by themselves.

The part-time egg producer is another type person attracted by the contract agreement, Karpoff added. He reported:

In most cases, these types of farmers will do a better job under the supervision of a good contractor who has the know-how and capital to keep their operations profitable.

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ORLANDO

USDA Issues Winter Acreage-Marketing Guides

A 3% ACREAGE CUT for fresh winter vegetables and a potato acreage equal to that of 1959 are recommended in the USDA's first acreage-marketing guides for 1960.

Grower cooperation with the recommendations is voluntary, not mandatory. The guides are designed solely to assist farmers in planning production.

Concerning its 1960 winter crop acreage recommendations, the US DA says:

"If production is in line with these guides for the coming season, and if marketings follow a normal time-pattern, supplies should be adequate to meet all requirements at a continuing high level of consumer demand."

The recently-issued winter vegetables guides cover 16 major crops that will be marketed—principally during January, February, and March of next year—in fresh form. They also cover the 1960 winter potato crop.

Guides for the 1960 spring season fresh vegetables and spring crop potatoes will be issued in October. The guides for summer and fall of 1960 will be issued next January.

Winter production of fresh vegetables, is concentrated, for the most part, in the warmest areas of four of the southernmost states: Florida, California, Texas, and Arizona.

On an over-all basis, the 1960 guides recommend a 3% reduction in acreage planted—in all winter-producing states—to vegetables for harvest next year. This amounts to a total of 233,400 acres planted to 16 winter vegetables, compared with 239,800 acres in 1959.

However, in order to bring them into line with consumer demand, acreage increases are recommended for four vegetables: cucumbers, up 65% tomatoes, 15%; snap beans, 10%, and beets, 5%.

No change (from 1959 totals) is recommended in the acreage planted to broccoli, carrots, sweet corn, kale, shallots, or spinach.

The USDA recommends that acreage planted to cabbage, escarole, and green peppers be decreased 15% from the 1959 acreage planted.

Specific recommendations include the following:

Cauliflower — planted acreage two-thirds larger than in 1959 in Texas and equal to 1959 in Florida.

Celery — planted acreage 20% less than in 1959 in Florida; 5% less in Arizona and California.

Lettuce — planted acreage 10% below 1959 in California, 25% above 1959 in Texas, and equal to 1959 in all other states.

Potatoes—planted acreage equal to 1959. (With average yields, the probable winter potato production from the guide acreage would be 4.2 million hundredweight.)

Anyone who thinks by the inch and talks by the yard ought to be kicked by the foot.

Lightning-proof Trees

You can lightning-proof your trees just as you would your house. So says J. V. Watkins, H. S. Wolfe, and T. B. Mack.

In the University of Florida Press book *"Five Hundred Answers to Your Florida Garden Question,"* these authors point out that the installation of rods, conductors, and the grounding of wires on trees by an experienced electrical engineer will prevent lightning damage.

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Conservationists Honor 'Grower'

AFFILIATE MEMBERSHIP — the highest honor a Soil Conservation District can give an individual or organization — last month was bestowed upon FLORIDA GROWER AND RANCHER by the Hillsborough SCD.

"The GROWER has always supported the conservation movement over the entire state. This is our way of saying 'thank you' for a job well done in informing the people of Florida about the latest and best agricultural methods."

So declared R. N. Morris (right) as he presented an affiliate member certificate to John L. Lippe, GROWER research and promotion director. Speaking on behalf of his fellow district supervisors, Morris continued:

"We are also grateful to your magazine on a more localized level. It was instrumental in our winning the Goodyear Award two years out of the past three."

(Editor's note: The Goodyear Award is presented annually to Florida's outstanding Soil Conservation District. Hillsborough is the only district in the state which has won this award twice.)

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Citrus CLOSE-UPS

By FRED P. LAWRENCE
Citriculturist
Florida Agricultural Extension Service

Findings on Fruit Splitting

EACH YEAR about this time, many growers report fruit splitting. This condition caused considerable economic loss to the Florida citrus industry at one time. Even now, although no longer a big factor in most commercial groves, it still is a matter of concern for some.

Research workers have been trying—for more than 50 years—to explain why seemingly normal fruits would suddenly split open and hang on the tree until insects and decay would cause them to rot.

Some 20 to 30 years ago, scientists learned that fruit splitting was associated with ammoniation (copper deficiency). They further learned that the elimination of ammoniation reduced the incidence of fruit split but did not eliminate it altogether. They also observed that fruit split more in certain years than in others.

We recently came across an enlightening article about splitting in the Australian citrus magazine, *"The Citrus News."* It was written by A. E. Cameron, manager and secretary of the Mildura and Districts Citrus Cooperative Association.

Because we feel this article sheds additional light on the subject of fruit splitting, we are quoting it in its entirety:

"The cause of the splitting of naval oranges as they approach maturity has been debated on many occasions, and has in recent years been the subject of some investigation in California.

"The starting point for the investigatory work was provided by the general opinion held by fruit growers (held not only in America but also by many in Australia) that fluctuations of soil moisture were the most likely cause of splitting. The loss of up to—and in severe cases, beyond—20% of a crop almost ready for harvesting would justify the application of any practical remedial measures.

"The California Citrus Experiment Station's investigations revealed no grounds for supporting the view that shortage of soil moisture contributes to splitting of navals:

"Fruit splitting in 1955 was very light in all naval orange districts of Southern California. The trees in experimental plots were all watered by normal furrow irrigation on a 15-day schedule. The treatment trees received supplementary irrigation in basins beneath the trees.

"Under the check trees, which did not receive this extra water, the soil was dry to at least a foot deep for most of the growing period of the fruit. There was no difference in 1955 in the number of split fruit between treated and untreated trees.

"Splitting was very heavy in 1956. But again there was no difference between treated and untreated trees.

"These results indicated to the investigators that other factors, perhaps climatic, had a greater influence on the development of splits than did soil moisture.

"It was thought that sudden large changes in percent relative humidity might be a cause.

"When splitting was light in 1955, the average relative humidity increased in the autumn by 3% compared with the summer months. In 1956, when splitting was very bad, the increase was 17%.

"This influence on splitting was supported by a variation of humidity increases between districts:

"In 1956, serious splitting occured in one district where humidity increased rapidly in the autumn. There was little splitting in a district, only five miles away, where the humidity variation was slight.

"Scientists doing this work emphasized the importance of certain localized weather conditions on the performance of orchards in a particular area. The greater amount of fog and dew would tend to reduce transpiration and favor the building up of turgor pressure within the fruit during the night.

"They conclude that soil temperatures in the principal root zones decrease slowly during the autumn, and favor active moisture uptake by the tree. This conclusion gives some support to the suggestion made in these notes, on several occasions over the years, that rapid contraction of the rind enclosing a ball of warm juice causes the splitting of the fruit where the skin is thinnest.

"The soil itself, the sap of the tree, and the juice of the orange are all comparatively warm at the end of summer and in the autumn. This is a time when sudden changes of temperatures occur, sometimes associated with a shower of rain.

"These conditions bring about a rapid contraction of the outer part of the orange, and the thinnest part of the rind is unable to stand up to internal pressure from warm juice and the outward contraction caused by the cold.

"The thinner skinned varieties of navels, and those with a high juice content, suffer most. For some reason or the other, the younger trees of these varieties have a very high percentage of splits in years when splitting is bad—many more than the older trees of the same variety.

"If rind contraction under sudden temperature changes is the cause of splitting, there is nothing much that can be done about it. That applies also to the Californian suggestion that a sudden increase of humidity may be responsible for the trouble.

"Overhead sprinkler irrigation could possibly contribute to the conditions under which the humidity is of a high order. It could also cause a rapid fall in temperature, particularly at night — bringing about the contraction of the rind and causing it to split.

"There is no doubt that the rind gives way at its thinnest point, the navel end.

"Similarly, it is clear that the thinner-skinned strains suffer the most. (A sport navel found by a district grower, and propagated to the extent of only a half-dozen or so trees for proving its value or otherwise, had such a thin skin that most of the fruits split in any season; in a bad year for splitting, every orange suffered. Needless to say, it was not followed up for commercial use.)

"It does seem reasonably certain that splitting of navels is not due to fluctuations of soil moisture. Trees which suffer from dryness regularly every autumn suffer no more from splitting than those in more favored parts of the same grove.

"Growers have claimed, on the other hand, that in groves not permitted to dry out at any time during the summer, there have been just as many splits as where there has been an alternate shortage and sufficiency of moisture."

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Agricultural OUTLOOK

Crops Although down 4% from 1958, crop production is well above any other past year.

Corn is the big gainer. However the crops of oats and barley are smaller, and the feed grain total will fall a little short of 1958.

Non-citrus fruit production is up 6%. And farmers planted 28% more cotton than last year.

On the other hand, soybean acreage is down after nine consecutive years of increase.

Dairy Milk output has been running a little below 1958, partly because favorable prices for slaughter animals has stimulated heavy culling in dairy herds.

Consumption of milk, on the other hand, has been running a little higher. Consequently, purchases for support are down some.

So far this year, consumption of fluid milk per person is as high or higher than in 1958.

Cattle and Hogs Cattlemen are adding between 4 and 5 million head to the nation's herd this year. Hog production is likely to reach 104¼ million head—a new peace-time record.

Pork output already has reflected increased hog production. The bulge in beef, however, is not likely until the early 1960's.

Marketings of meat animals will increase seasonally, and will run above a year earlier during the next few months.

For hogs, gains over last year will be substantial because of a 12% increase in the 1959 spring crop. Slaughter of both fed and non-fed cattle will be as high, or a little higher.

Poultry Egg production topped 1958 by 5% in the first half of 1959. Broiler production was also up.

During the rest of 1959, egg production is likely to continue above 1958. The year's total is expected to exceed the 1956 record.

Laying flock at mid-year was slightly below a year earlier, but the number of pullets that will begin laying October 1st is above last year. Also, rate of lay is up.

Turkeys The 1959 turkey crop is likely to break the 1957 record.

Late summer slaughter was up from last year because of the big hatch of poults before June. Many of these birds will go into storage for the holiday market.

The outlook is better for prices late in the year. By then, much of the record 1959 crop will have been eaten and storage stocks are smaller than last year.

Feed A record grain supply is in prospect for 1959-60. The bumper corn crop nearly offsets smaller crops of other grains.

The estimated 1959 total is only slightly below the 158 million tons of 1958 But carryover is likely to rise 8 to 10 million tons.

Grain prices probably will stay a little below a year earlier through the fall because of heavy production and lower supports.

(EDITOR'S NOTE: The above was adapted from recent USDA Agricultural Situation bulletins.)

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FIRESTONES MOVE THE ORANGES OUT OF OUR GROVES!"

Mr. Watson (right) checks tires with Firestone representative Bill Corley.

says J. Ben Watson, Fleet Manager, Snively Groves, Inc., Winter Haven, Florida. "There's a lot of weight in a load of oranges—they're a wet load and I mean heavy! Firestones are the only tires we'll buy to move 'em out of the groves. We can't waste time with loads held up by tire failures, and we know we can trust Firestones. And just as dependable is the service we get from Bill Corley, our Firestone representative in Winter Haven."

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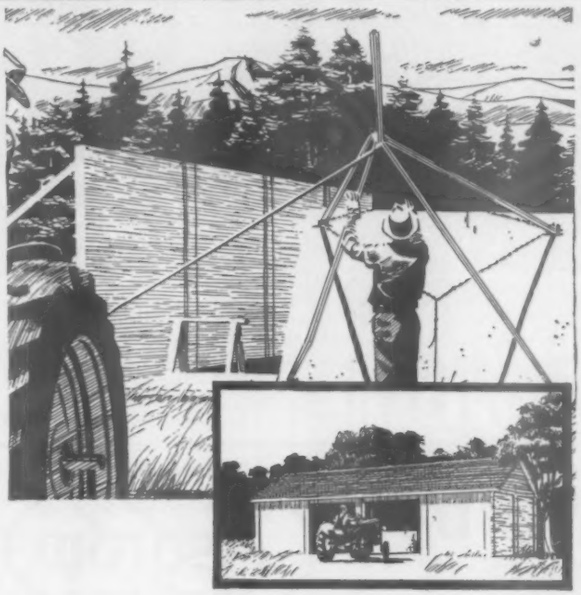
Scientists Will Evaluate Nominations of Floridians

FIVE MEN have been named to receive and evaluate nominations of Floridians for the 1960 Hoblitzelle National Award in Agricultural Sciences.

Consisting of $10,000 in cash and a gold medal, the Award will go the scientist or scientists making the most important contribution to American agriculture during the last four years. It will be conferred May 18, 1960.

Heading the Florida State Committee is Dr. H. R. Wilkowske of Gainesville, assistant director of the Florida Agricultural Experiment Station. Serving on the committee with him are:

Dr. Paul Harding, principal plant physiologist, Research Division, USDA, Orlando; Dr. L. G. McDowell, director of research, Florida Citrus Commission, Lakeland; Dr. Herman J. Reitz, horticulturist-in-charge, Citrus Experiment Station, Lake Alfred, and Dr. A. L. Stahl of the University of Miami, Miami.



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The tilting frame illustrated was developed by the Texas Agricultural Experiment Station. Now, a small crew can place 8 x 8 or 10 x 10 concrete panels in a matter of minutes. The only power needed is that of a standard farm tractor.

Long-life concrete is weather-resistant, rodent-proof and noncombustible. Solid concrete walls can take the punishment required in farm structures like loafing and feeding barns and machine sheds. And because they need little or no maintenance during their long life, concrete buildings save you time and money. For details, see your ready-mix dealer, rural builder, or farm structures specialist at your state college. Or fill in the coupon below.

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Now is the time to provide the nitrogen that will take care of your requirements during the next three or four months. Quite generally, the available nitrogen in grove soils has been taken up by the trees or was lost by leaching during the rainy summer seasons. It should be replaced now.

Regardless of tree age, variety, rootstock or soil pH, this job can be done very satisfactorily with nitrate nitrogen. Natural Chilean Nitrate of Soda, or Chilean Nitrate of Soda-Potash where additional potash is needed, is ideal for Florida soils and climate.

The nitrogen in Chilean Soda is 100 percent nitrate nitrogen—all available, safe and sure! It gives fast, vigorous action and maximum efficiency under a wide range of soil and climatic conditions. It is rich, also, in minor elements which provide extra insurance against hidden plant-food deficiencies.

Every ton of Chilean contains sodium equivalent to 650 pounds of commercial limestone in acid-destroying value. For most soils this is usually an important consideration. Sodium is a very mobile element and helps to maintain a desirable pH at all practical levels of soil and sub-soil. This conserves soil fertility while producing heavy crops of top-quality fruit.

If you are not using 100 percent nitrate nitrogen now or if you have any doubt about its value for your needs, we suggest that you set aside a block of trees and use Chilean Soda as your sole source of nitrogen throughout the season. Compare these trees with the rest of your grove and decide for yourself. Whatever the result you are bound to win.

NATURAL CHILEAN NITRATE OF SODA

Weed Control in Field Corn

Research has shown (see page 14) that several products effectively control broadleaf weeds and grasses in field corn. These photographs, supplied by a herbicide manufacturer, illustrate the degree of control achieved in one experimental project.

Both the test and the check plots were located in the same field and encompassed the same soil types. Field corn was planted on May 26, 1958 in the two plots; both were cultivated twice.

These two photographs were taken on the same day, August 28. Note the rank growth of broadleaf weeds and grasses in the check plot (right) which received no herbicide application. Weed control in the test plot was achieved by applying Simazine 50W in 10-inch bands at three pounds per acre.

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wilt-resistant

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ASGROW-VIGORPAKed for rapid, uniform emergence, high plant-bed-vigor NOW ready at your nearest **KILGORE** store or order direct from our Plant City office.

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Florida Livestock Outlook

FLORIDA CATTLE PRICES are likely to remain high during the coming fall and winter. But the situation looks different for late 1960 through 1962.

Hog prices are down now. And they probably will be down throughout 1960.

So predicts the Florida Agricultural Extension Service Outlook Committee. The committee's report explains:

Intense competition for high grade feeder stock will probably keep the market strong for cattle moving to grain feed lots. Therefore fall and winter feeder cattle prices are expected to hold steady with only a moderate seasonal decline, depending on pasture and range conditions.

Currently, steer and heifer slaughter is up some. On the other hand, cow slaughter was down 22% and calf slaughter off 18% in the January-May 1959 period.

On January 1, 1959, there were 97 million cattle on Florida farms. By next January, Florida may have as many as 101 million cattle.

This indicates a build-up in herds and is about twice the rate of increase needed to keep pace with population growth, according to the specialists. They warn:

Prices should remain fairly high during the rest of 1959. Nevertheless, now is the time to cull the herd closely; the future may not be so bright if this build-up continues.

Hog price predictions are based on an anticipated jump in the numbers of swine on Florida farms. The committee points out:

If present intentions are carried out, the fall pig crop will be about 8% higher than last year and 27% over two years ago. And if the expected 8% more pigs are saved this fall, winter and spring hog prices are expected to be lower than last season.

Prices in 1960, the committee continues, are expected to be low. They will probably be lowest in the fall of next year.

* * *

The best things in life really aren't free; most of us have to spend a lifetime learning that they *are* the best things.

* * *

When a youth started sowing wild oats in the old days, his father started the thrashing machine.

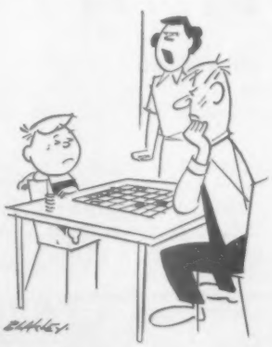
The screwworm—dread and costly livestock pest—is on the run!

So report directors of the State - Federal Screwworm Eradication Program from their Sebring headquarters. However, they add:

"But livestock owners—and those who have pet dogs or cats, too—must continue to be watchful.

"If you find a suspicious case, save some samples—egg masses or maggots – and report at once to your county agent or livestock inspector."

Cooperation of every livestock and pet owner, the directors say, is the key to screwworm eradication.



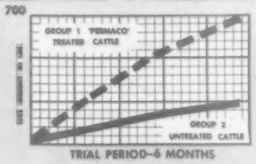
"Junior, you know your father has to get up early in the morning . . . Let him win a game!"

End "Hidden Hunger" In Your Cattle . . . One Dose Increases Beef Gains 10% to 22%!

'PERMACO' COBALT BULLETS . . . the only one-dose way to supply cobalt continuously

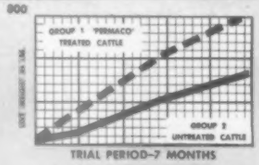
It's a fact—as many as 9 out of 10 cattle in Florida are suffering from "Hidden Hunger" due to lack of cobalt! One sick or unthrifty animal in your herd usually indicates that your **entire herd** is suffering from cobalt insufficiency. These borderline or "unapparent" cases can seriously reduce beef production—and **reduce your profits!** But a single 'PERMACO' Cobalt Bullet per head provides a DAILY cobalt supply for a FULL YEAR! Even in areas where beef fattening has never been a problem, 'PERMACO' Cobalt Bullets can give you a minimum of **10%** to **22%** INCREASED beef gains . . . and that means 10% to 22% more PROFIT.

ONE DOSE PRODUCED THESE RESULTS IN CONTROLLED TRIALS!



66 lbs. per head in extra weight gains!

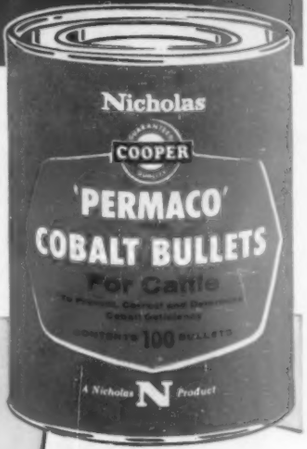
In this trial on 14 cattle, the total extra weight gain of 924 lbs. was the equivalent of **gaining an extra animal in this small herd.**



735 lbs. in extra weight gains in 7 months!

This trial on 21 animals was conducted in an area where beef fattening was never a problem.

(Controlled trials were also conducted on dairy cattle with equally successful results. One 'PERMACO' Cobalt Bullet per animal increased milk and butterfat production up to 26%.)



2-WAY PROTECTION FOR YOUR CALVES

1. Bullet your breeding cows to insure that calves get off to a good start.
2. Avoid setback—bullet your calves at weaning before they go on winter pasture and feeds.

Right NOW . . . At Round Up . . . Get Rid of Your Cobalt Problem!

Drenching alone is not enough to reduce unthriftiness. Mineralized drenches or cobalt drenches must be given twice a week to provide sufficient cobalt. But with the Cobalt Bullet, one dose and you can forget about your cobalt problem for 12 months. At your next handling, bullet your animals at the same time you drench them. Remember—the cobalt problem increases when cattle are on winter pasture and feed. So give them a FULL YEAR'S supply with a single dose of 'PERMACO' Cobalt Bullets. Order Cobalt Bullets from your veterinarian or usual supplier TODAY!

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When Using Weed Killers,

Handle With Care

ONE IMPORTANT characteristic of weed killers such as 2,4-D and 2,4,5-T is that very small amounts of these chemicals may kill or injure susceptible plants.

Admittedly, these potent herbicides control many weeds. On the other hand, they can injure or kill desirable plants unless they are handled properly.

Such materials are advertised and sold as "weed" killers. But remember: They cannot distinguish between weeds and non-weeds.

The following precautions should be observed when using both 2,4-D and 2,4,5-T as well as related chemicals:

Do not use 2,4-D weed control equipment for applying insecticides or fungicides.

Do not apply 2,4-D within several feet of sensitive crops such as cotton, tobacco, tomatoes, most garden vegetables, flowers and ornamentals. Flowers and shrubs should be covered with paper or similar material when spraying lawns unless granular materials are used. Exercise extreme care to prevent the chemical from reaching such desirable plants through drifting, leaching into the soil, running surface water, irrigation water, and other ways.

Use low pressure (20 to 40 pounds per square inch) and nozzles with relatively large openings which result in coarse sprays rather than fine mists.

Operate spray boom and nozzles close to the vegetation being sprayed.

When there is any wind, do not spray around home or gardens. Stop spraying in fields when wind velocity exceeds five or 10 miles per hour. Do not spray near fields of sensitive crops unless there is no wind or unless it is blowing away from sensitive crops.

Use only the low volatile forms (the amines and low volatile esters) around homes, gardens, and in fields where sensitive crops are growing nearby. The high volatile ester formulations are for use in treating areas away from sensitive crops or plants.

Do not plant crops in soil immediately after 2,4-D has been applied. However it remains in the soil only a short time, particularly when rainfall is heavy.

(Resistant crops—such as small grains, corn, sorghums, and other grasses—can be planted 30 days after 2,4-D is used. Planting of cotton, legumes, and other broadleaf susceptible crops should be delayed at least 50 to 60 days.)

Do not store 2,4-D near seeds, fertilizers, insecticides, and fungicides.

St. Augustine grass can be killed by high rates of 2,4-D or 2,4,5-T.

Use recommended dosage. No advantage is to be gained from using higher dosage—and lower rates may not kill the weeds. (Proper application is impossible unless the equipment is calibrated so that the exact amount of chemical is applied.)

Make applications when weeds are young and growing vigorously. Read and *carefully follow* instructions and precautions of manufacturer.

New Process Has Reduced Drift Danger from Herbicides

DRIFT DANGER from herbicides has been reduced on some chemicals by inverting the making process.

Two widely used substances, 2,4-D and 2,4,5-T, are now made as creamy substances. These cling to foliage and cannot be carried by the wind onto sensitive crops and shrubs.

One such product now on the market is Inverton. It is specifically designed for application as a thick, mayonnaise-like invert emulsion.

In this type of emulsion, water droplets are dispersed through a continuous system of oil, giving an invert or water-in-oil emulsion instead of a conventional oil-in-water emulsion.

Properly applied, this material can reduce the amount of drift normally encountered with conventional brush control sprays.

Agricultural scientists say the material should be especially useful for aerial applications on brush and wooded areas. They point out it does not wash off readily in light showers.

For this reason, it promises to have some value for use during inclement weather when spray operations are usually suspended. Current work indicates that late season application may be effective at a time when conventional sprays are not used.

The new process should be of great value here in the South. The thick substance can be sprayed near sensitive tomatoes and cotton plantings without causing damage.

Value is seen also for its use in spraying irrigation ditches in fields of susceptible plantings.

Researchers warn against using the material to control weeds in growing crops. They explain that it sticks to leaves and causes burns.

Another problem with the product is that spray equipment for its application requires high pressure and large nozzles to accommodate the thick emulsion.

Childhood: That wonderful time when all you need do to lose weight is to bathe.

Giving advice isn't very risky; few people ever take it.

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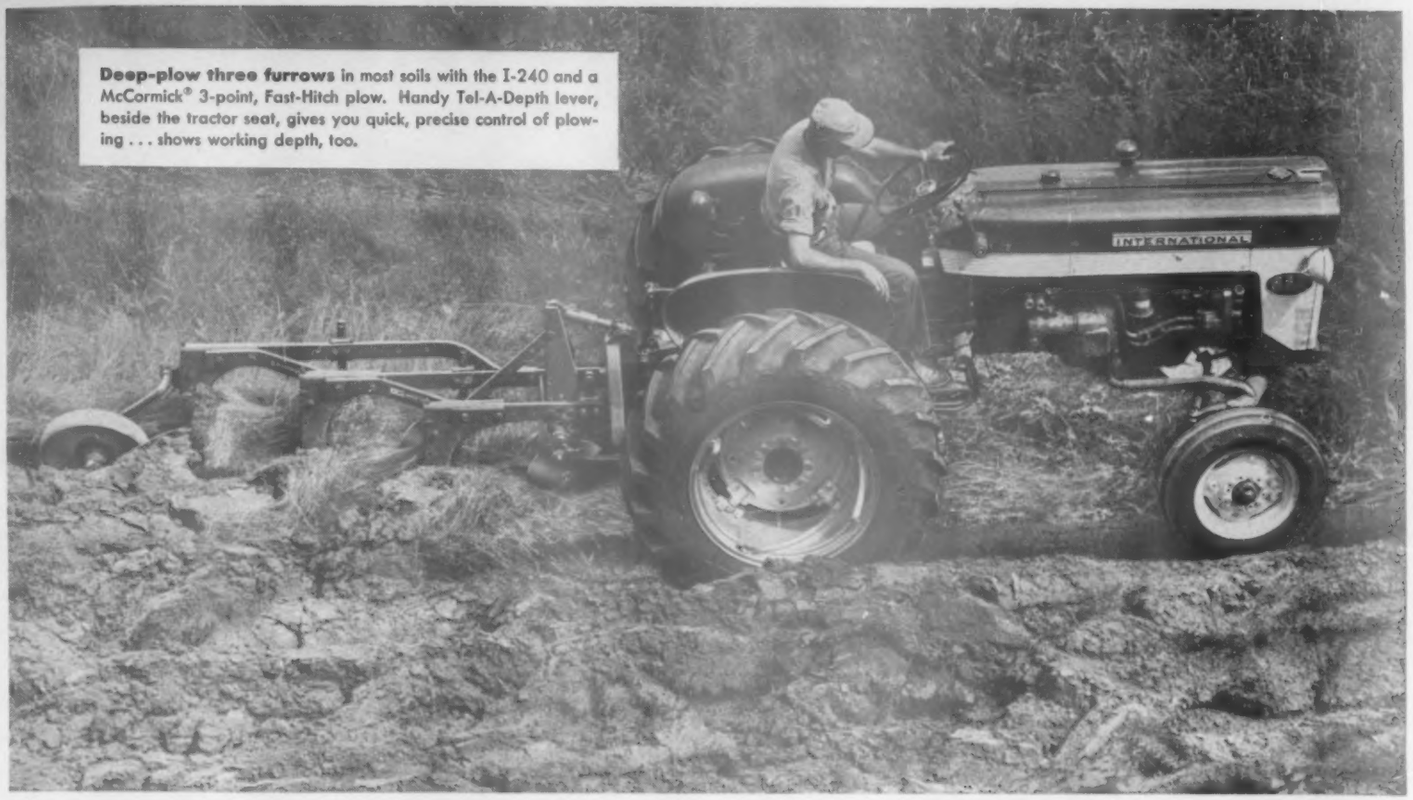

Deep-plow three furrows in most soils with the I-240 and a McCormick® 3-point, Fast-Hitch plow. Handy Tel-A-Depth lever, beside the tractor seat, gives you quick, precise control of plowing . . . shows working depth, too.

Try IH-tough power for 3-point tools!

More powerful Farmall 140, with 22 dhp, has 2-plow pull in most soils. Culti-Vision design places the driver right over the row to make hoe-close cultivation easy. Fast-Hitch convenience and two-way hydraulic Touch-Control speed your work.

Get big tractor features in a 3-plow International 340 which cultivates four rows as fast as five mph with this McCormick rear-mounted cultivator. Torque Amplifier drive, independent pto, and power steering help the I-340 outwork many larger rigs.

International® 240 Utility has up to 346 lb more brawn than other 2-3 plow rigs . . . outworks them on less gas!

Get today's most advanced 3-point hitch, plus famous IH durability, in the new International 240 Utility tractor. The I-240 weighs up to 346 pounds more than other 2-3-plow outfits. And its heavy-duty, 4-cylinder engine not only outlasts lighter automotive-type engines, but outperforms them. Independent tests show that the I-240 outpulls other 2-3-plow utility tractors at *all* comparable speeds . . . does more work on less fuel!

Even your present 3-point tools work better on a new I-240! New IH 3-point Flat-Hitch gives you from-the-seat hook-up . . . helps 3-point equipment match the good work of trailing tools by giving it 3-way "float." Hinged lower draft links assure faster penetration—prevent shallow-out! And the I-240 has plenty of clearance for working beds or laying-by tall crops. In tough going, Traction-Control Fast-Hitch adds up to a half ton of weight to tractor drive wheels . . . *automatically* matches traction to the load without loss of power through hydraulic devices.

Any way you measure tractor value, the International 240 Utility—or its twin-size Farmall® 240—tops the 2-3-plow class. And when you figure lower upkeep over a longer life, these IH tractors cost less per hour of use than cheaper-built rigs!

Try the big IH advance in 3-point farming! See how Fast-Hitch makes it easier to do good work with 3-point tools. Just call your IH dealer to compare a rugged IH tractor with this "do-more" hitch to your present power.

MATCH YOUR PAYMENTS TO YOUR INCOME! INCOME PURCHASE PLAN PAY AS YOU FARM

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Agri-mycin 500 can help you control the devastating losses from bacterial spot as shown above. Used in seedbeds, or newly planted fields, Agri-mycin will help you get a higher percentage of disease-free plants which produce quality fruit.

TOMATO and PEPPER PRODUCERS:

Control Bacterial Spot Better Than Ever Before with

Agri-mycin® 500*

*Agri-mycin brand of oxytetracycline-streptomycin formulation
*U. S. Patent 2,777,791

THE ONLY PATENTED COPPER-ANTIBIOTIC COMBINATION

Latest Florida Experiment Station reports show that *basic copper plus streptomycin formulation gives far more effective control of bacterial spot than copper compounds or antibiotics used separately.*

Now you can get this same effective and economical control with Agri-mycin 500, the combination of antibiotics—streptomycin and Terramycin*—plus copper.

The copper and antibiotics work together to prevent and eradicate bacterial spot. The antibiotics are absorbed into the plant tissues to work from within as well as on the surface . . . explaining why Agri-mycin is effective even if disease has already attacked your tomato or pepper plants.

Agri-mycin 500 is also effective against these other costly fungal diseases: Early Blight, Late Blight, Septoria Leaf Spot, Anthracnose, Leaf Mold and Cercospora.

Get Agri-mycin 500 now for more effective disease control in your tomato and pepper crops than you've ever had before.

*Terramycin brand of oxytetracycline

Florida Experiment Station Seedbed Tests (1)

	Amounts Used/100 gal.	% Healthy Pepper Plants	% Healthy Tomato Plants	Aver. Total Control Effectiveness
No treatment (Control)	—	0	0	0
Basic Copper Sulfate	4 lbs.	20	0	10%
Calcium Copper Chloride	4 lbs.	3	3	3%
Streptomycin	200 ppm.	87	7	47%
Basic Copper *and* Streptomycin (as in Agri-mycin 500 Formulation)	4 lbs. 100 ppm.	87	80	83%

Tomato varieties: Jefferson, Manalucie; Pepper variety: California Wonder. Seven sprays at 3-6 day intervals under natural Florida weather conditions.

(1) Plant Disease Reporter, Vol. 43, No. 2, February 15, 1959

Chas. Pfizer & Co., Inc.
Brooklyn 6, N. Y.
Science for the world's well-being

Pfizer

Agri-mycin 500 and Agri-mycin* 100 are now available from these Florida Distributor locations:

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Florida Agricultural Supply Co.
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Kilgore Seed Company
Belle Glade, Fort Myers, Gainesville, Homestead, Ocala, Pahokee, Palmetto, Plant City, Pompano Beach, Sanford, Vero Beach, Wauchula, West Palm Beach

Florida East Coast Fertilizer Co.
Homestead

*Agri-mycin brand of oxytetracycline-streptomycin formulation
*U. S. Pat. No. 2,801,200

5-lb. bag of Agri-mycin 500 makes 100 gallons of spray . . . enough to treat over 2 acres of field-planted seedlings depending on plant size. Save 10% on the 25-lb. bag which makes 500 gallons of spray.